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MACFORMAT

ISSUE 22 ■ MARCH 1995 ■ £3.95 WITH HD DISKS

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The latest version of the software that tricks your Mac into thinking you have a maths co-processor...
Extra 3D disk!
MacConcept
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Fonts
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See back cover of magazine for more details & compatibility information
3.5MB OF GREAT SOFTWARE!
MACFORMAT
DISK 22A MAR 95
Blobbo
Fabulous puzzle game to stretch your mind to the limit (unlike a spotty near namesake).
SoundHandle 1.0.2
Re-mix time! Record long samples, then manipulate them and add effects.
Thumbnailer
Shrink screen-cluttering graphic file icons into tidy miniatures.
MacPrefect 3.0
Security software for the Mac – 30 day time-limited demo.
Lottery Lolly!
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The classic mind game for your Mac. Black leather chair and Magnus Magnusson not supplied.
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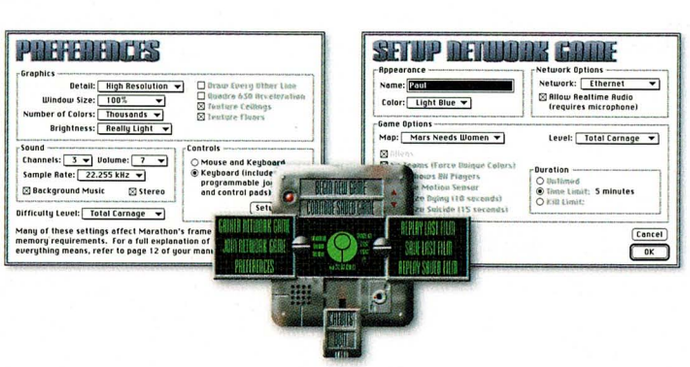

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The Finder

MACFORMAT

Welcome again to MACFORMAT, Britain's best-selling Mac magazine! Whether you're a veteran or a novice, we'll bring you news, reviews of affordable and interesting new products, tips and techniques to help you get more out of your Mac, whatever you use it for!

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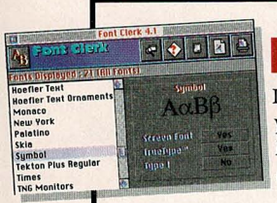
HOW TO DO IT



Font Of Wisdom 68

If all the talk of TrueType and PostScript gives you a king-sized headache, you need the MACFORMAT guide to smoothing those jagged edges and solving your printing problems

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Learning about computers is now part of the National Curriculum. We look at how you can help your child get to grips with your Mac and get a head start at school

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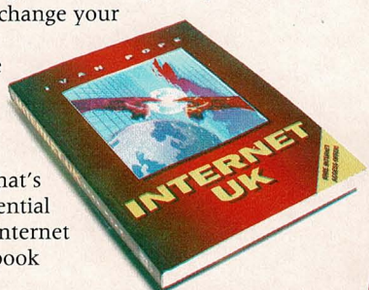
UK phone codes are changing from Sunday 16 April. Our guide shows you to how to change your address files automatically, whichever database you use



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You've got your modem: what's next? We show you the essential places to stop off at on the Internet and check out a new guidebook

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The smallest graphics tablet ever, the latest 3D landscape designer, and a giant hard drive get the MACFORMAT test. And there's more from San Francisco

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The story of how Atari could be changing the face of games everywhere, not least on the Mac. Plus: the cut-price video revolution and an open letter to Dixons

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You could win one of the very fastest CD-ROM drives around, courtesy of DynaTek

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CD-ROMs are becoming more and more popular. Our group test on page 48 helps you find the best drive for you, and our bumper multimedia section reviews the hottest new titles, including a Wildlife-on-CD-ROM special

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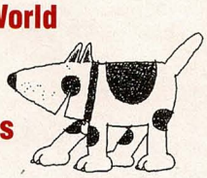

Photoshop 3.0 64
It's the image processing software the professionals use, whether they're adding spectacular special effects or doing subtle retouching. Will you be able to spot the joins in the latest version?

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If you yearn to make music but find sequencers just too complex, this could be the program for you

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A measurement converter leads off this month's choice of bargain software. Plus: everything you ever wanted to know about cows, and how to get a job multimedia-style

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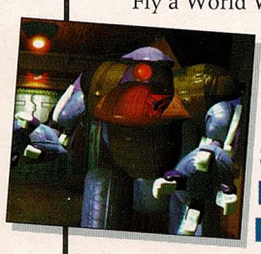
Fly a World War II bomber, travel through time and build a tower block with these aids to relaxation:



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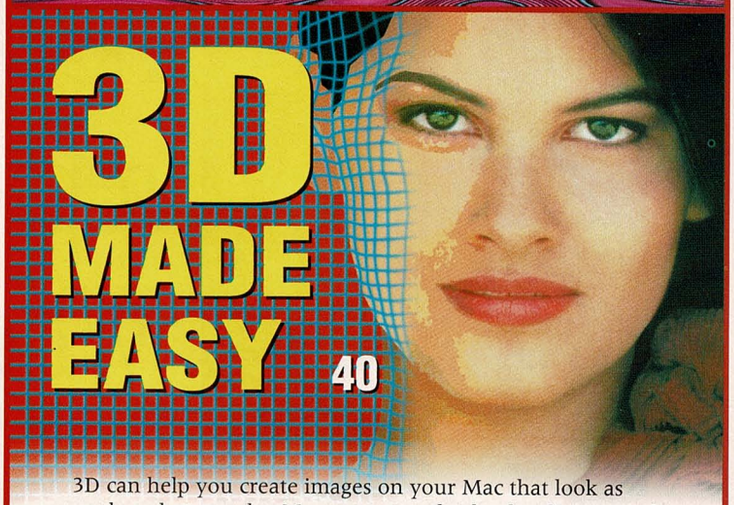

3D can help you create images on your Mac that look as real as photographs. MACFORMAT tracks the development of three-dimensional software and looks at how the programs of the future will make the 3D Mac even better

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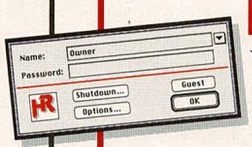
CD-ROM Drives 48
Which is the best CD-ROM drive for you? We look at the fastest and the slowest drives around

Kid's Desktops 72
If your children find the Mac a bit too tricky for the moment, here are some alternatives to help them get used to it – and have some fun too



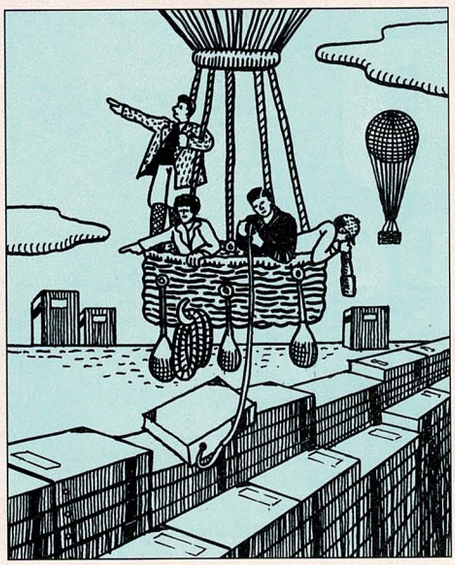
Lock It Or Lose It... 98
We examine the programs that claim to protect your Mac from nasty accidents and prying eyes

COVER DISKS

Your Cover Disks 7
A usable demo of top 3D program *InfiniD*, to accompany our 3D tutorial on page 43, tops the bill of another double-disk special. And there's more – a brilliant shareware puzzle game and a time-limited version of *MacPrefect 3.0*

Your CD-ROM 10
InfiniD is joined by a posse of great 3D demos, including *Dimensions*. You can also edit your own video with *VideoFusion*, take a test flight with *Out of the Sun* and look up the *Dictionary of the Living World*. And there's megabytes of shareware!

Somewhere, on the office network, there are reports on my client. Where do I start...?



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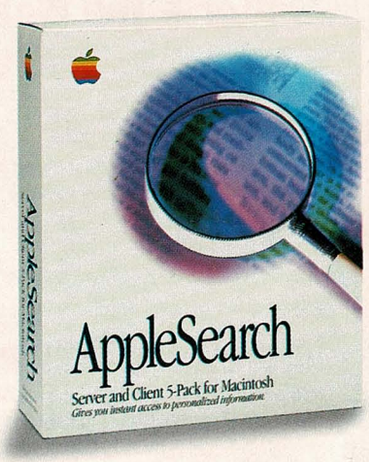

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Your cover disks

START HERE

A high density floppy disk can contain about 1.4 megabytes of software, but we want to bring you as much as possible every month. Therefore, we use compression programs to reduce the files in size so we can fit more on – this month there's well over three megabytes worth. Unfortunately, this means you can't use the programs straight off the disk. You must install them on your hard disk first.

Doing this is very simple. Just double-click on the floppy disk icon, then double-click on the MACFORMAT 22 icon. A copyright message appears. Click **Continue**. A box then appears that asks you where you want to save the contents of the disk. Choose the place on your hard disk where you want everything stored and click **Save**. After a couple of minutes or so of frantic disk activity, the files will be stored on your hard disk.

Before installing the cover disk we recommend that you back up any important work on your hard disk. This sensible precaution will avoid problems should any software not be compatible with your setup. We make every effort to check our disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any consequential losses. Please, back up first.

GETTING YOUR BACK UP

Before you do anything else, you should make a backup of the MACFORMAT cover disk and work only with the backup – just in case anything does happen to go wrong. Make sure the original cover disk is write-protected (move the tab so that you can see through the hole). Then nothing can be written to the disk or deleted from it. After that, follow these simple steps:

1. Insert the MACFORMAT cover disk.
2. Drag the disk's icon over your hard disk's icon. The contents of the cover disk will then be copied into a new folder on your hard disk called 'MACFORMAT 22'. It's still not decompressed, however, so at the moment you can't yet run anything directly.
3. When the copying finishes, drag the cover disk icon into the Wastebasket to eject it.
4. Insert a blank high density disk. Check that it's not write-protected and if need be format it, naming it 'MACFORMAT 22 backup' (or 'Derek' if you want. It doesn't matter).
5. Drag the 'MACFORMAT 22' folder from your hard disk on to the new floppy disk's icon. When it has finished copying, your backup is complete.
6. You can now delete the 'MACFORMAT 22' folder from your hard disk by dragging it across to the Wastebasket, and selecting **Empty Wastebasket** in the **Special** menu.

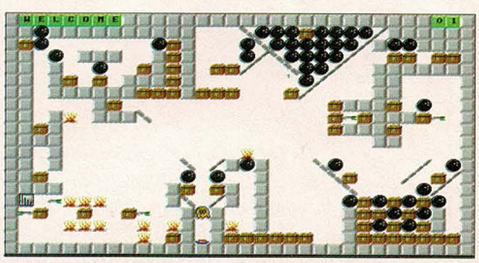
We bring you two disks this month packed full of software guaranteed to give you a happy Mac. Derek Smith and Brian Larkman spill the beans.

What could be better than a double disk edition of MACFORMAT? Well, okay, plenty of things, but bearing in mind that they're either immoral or illegal, this will have to do. With a stunning 6.5Mb of the most impressive software we've come across, this little lot will keep you occupied for at least a month!

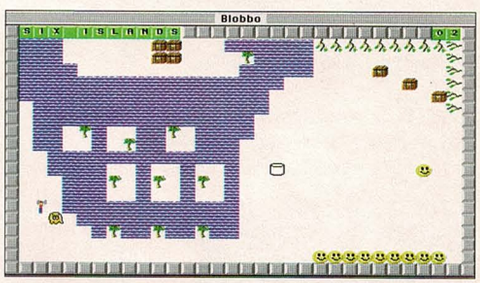
Blobbo

Strategy game
Requires: any Mac, System 6.0.8 or later

Blobbo is a little yellow blobby boy who has to clear the screen of chests. There is an explanation why, but it's far too stupid to repeat; even Jeffrey Archer could come up with a better story than the rationale behind this game.



Be careful not to block that blue ring, you'll need to use it wisely to complete the first level of *Blobbo*.



On the second level you'll need to chop down trees to make boats. Don't forget that pressing **[press]** makes you rest.

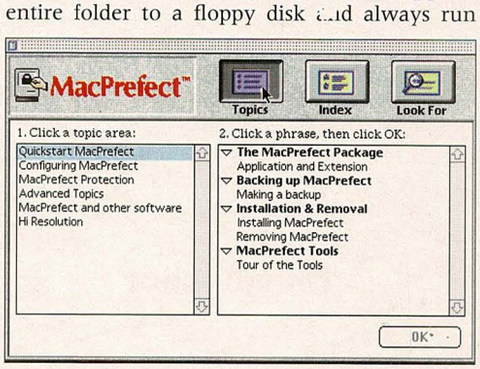
To pick up a chest, all you need to do is walk into one. But removing a chest usually has an effect. For instance, at the top of the screenshot, there is a chest holding 20 bowling balls. When you remove the chest all those bowling balls tumble out. You just have to make sure that you dodge out of the way, or Blobbo becomes Squisho.

Avoid the fires and be careful of those arrows. They're just waiting to fire across the screen. There are 25 levels and some of the puzzles will keep you head-scratching for ages.

MacPrefect 3.0

Software security
Requires: any Mac, System 6.0.4 or later

Please note: before using this program, copy the entire folder to a floppy disk and always run



If you have System 7.5, then a good place to get a handle on this demo is the Apple Guide menu: it contains complete instructions on how to use *MacPrefect*.

the program from that disk. This is because some of the program's features can stop you from launching programs on your hard disk – which means that you could end up being unable to open *MacPrefect* itself to turn it off!

Protecting your Mac is crucial, whether it's from accidental damage by children, malicious fiddling by adults or theft by pirates. This program protects you from the lot and its easy-to-use interface makes it a pleasure to use. This demo is the full working product, time-limited for 30 days. To read more about *MacPrefect*, turn to page 72 for a full review.

When you first open the program you'll need to click on the **Extension Installed** box, then make sure that the **Protection Enabled** box is checked. You can now click on the icons below to set the program up. If you want to disable the program, load up the control application and uncheck **Protection Enabled.**

MacMasterMind

Puzzle game
Requires: any colour Mac

This is a wonderful Mac adaptation of that mind game that was incredibly popular about ten years ago. I was no good at it then, and

The poor computer didn't stand a chance when it came across a master mind such as my own.

proving Einstein's theory that time is a constant, I'm no good at it now, either.

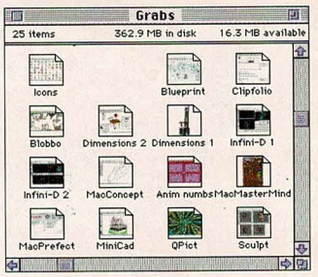
The idea is to guess the arrangement of coloured balls that the computer randomly generates. Drag the coloured balls onto the first empty row, then click **OK**. You are then rewarded with a number of white and black balls. Each white one represents a ball whose colour, but not location, you've guessed correctly. Each black ball represents a ball whose colour *and* location you've guessed correctly. You have a set number of guesses to find the sequence.

An interesting feature is the facility for you to pick a sequence and then ask the computer to guess it. Surprisingly, being the adjudicator is not as easy as you may think.

Thumbnailer

Icon utility
Requires: any Mac

If you've ever used *Photoshop*, you'll have noticed that it uses a really nifty feature: the icon



Create your own custom icons in seconds by dragging a graphics file onto *Thumbnailer*.

of a file is a miniature of the picture itself. This means that you can quickly see what a graphic files looks like.

Thumbnailer enables you to do this with any graphic file. Simply drag it onto the program's icon and wait a couple of seconds. Hey presto, a neat icon.

You may find that nothing happens. Don't worry: the Mac can sometimes be a little funny with icons. Try closing the window and re-opening it. That usually works. If it doesn't, then restart your Mac.

CatFinder 1.41

Disk cataloguer
Requires: any Mac

We featured an earlier version of this program in MACFORMAT 17, and now that it has got even better, we decided to put it on the cover disk. The idea of the program is to catalogue floppies, SyQuests, hard disks, and CD-ROMs.

Once they're catalogued, you can browse through any disk – whether it is in the drive or not! You can also search for a particular file when you are unsure which disk it is on. Operation is simplicity itself. The accompanying document has full details.

Icons

Icon collection
Requires: any Mac

Readers of our CD edition are used to receiving lots of programs sent in by our readers. We get sent quite a few icons, but this is one of the best collections we have seen. There are over 100 cartoon-like icons to choose from. To use them, click once on the icon you want and select **Get Info...** from the **File** menu. Click once on the icon in the top left corner, and choose

If you can't afford to upgrade your hard disk to a 32 gigabyte whizzo drive, then at least you can give it a new icon.

Copy from the **Edit** menu. Now click once on the file or folder you want to change. Go though the same process again, but choose **Paste** instead of **Copy**.

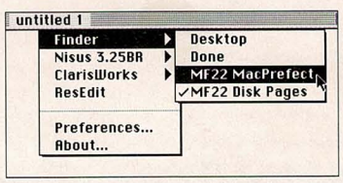
You can change the icon of most things – files, folders, hard disks and even floppies. However, there are a few things that you can't change. These include the Wastebasket, the System Folder, and shared disks.

WindowWizard

Utility
Requires: any Mac, System 7 or later

Conjure up a bit of magic on your Mac with *WindowWizard*. Once the Extension is installed in your System Folder, you can access any open window, anywhere, any time.

Simply click and hold down the mouse button on the window title. You are presented with a list of all currently open applications, including the Finder. Move the mouse down to one of these applications and another window pops out listing all currently open windows in that program. Select a window and it will come to the front.



Navigate your way around your programs and windows at top speed with *WindowWizard*.

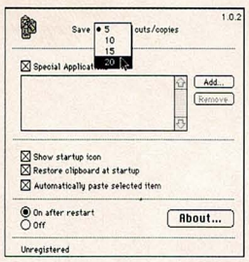
GOT A PROBLEM?

If the cover-mounted high density disk or CD-ROM you have is defective, return it to us and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will be just the same!

Return HD disks to:
Discopy Labs
PO Box 21
Daventry
NN11 5BU

Return CD-ROMs to:
MACFORMAT CD returns
Future Publishing
FREEPOST (BS4900)
Somerton
Somerset
TA11 6BR

Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. Please do not return disks or CDs to the editorial office; we don't hold stocks of them and can only refer you to the addresses above.



Opening the Control Panel enables you to select how many items *Clipfolio* will remember and store.

Clipfolio

Clipboard enhancer
Requires: any Mac, System 7 or later

Whenever you select something and choose **Copy** from the **Edit** menu, that selected item is copied to a place inside your Mac called the clipboard. It is stored there ready to be pasted. The problem is that only one item can be on the clipboard at a time.

Clipfolio solves this problem by storing up to the last 20 items that you copied onto the clipboard, giving you easy access to recall them. To install this program, drag this Control Panel onto the System Folder and restart your Mac.

SoundHandle 1.0.2

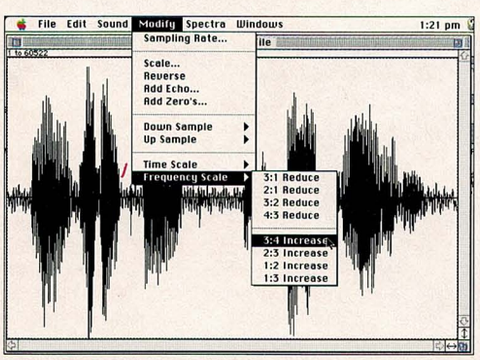
Sampling
Requires: any Mac, sound input source

With System 7, you could record up to ten seconds of sound, using the input port at the back of the Mac. *SoundHandle* expands this, enabling much longer samples and giving you the facility to view and alter your sound afterwards. As simple to use as a word processor, you can cut and paste sections of a sample, and add effects such as reversing a sound or adding echo.

QPict

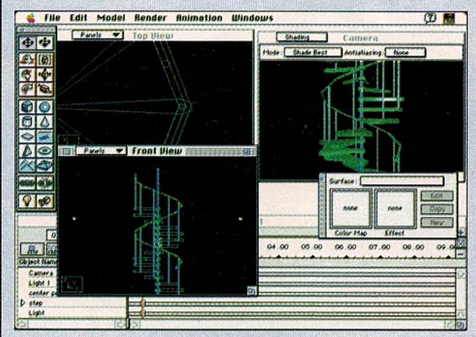
Picture browser
Requires: System 7 or later, *QuickTime*

If you have a large collection of clip-art or other pictures, it can be a real pain searching for the image you want. What you need is a library of your pictures, giving you a preview of what they look like, plus quick access to the full size version. Enter *QPict* to solve your problems. The documentation makes it sound a bit confusing. It's not. Just drag several PICT files on the program's icon and see the results.



The world of sound sampling is now at your fingertips with *SoundHandle*. But be warned – it will probably take *at least* 40 minutes to create a number one hit!

3D SPECTACULAR!



Keep a copy of *Infini-D* installed on your Mac. We'll be featuring it a lot in our series of articles on 3D, so you'll be able to try out the ideas and concepts with this demo.

InfiniD

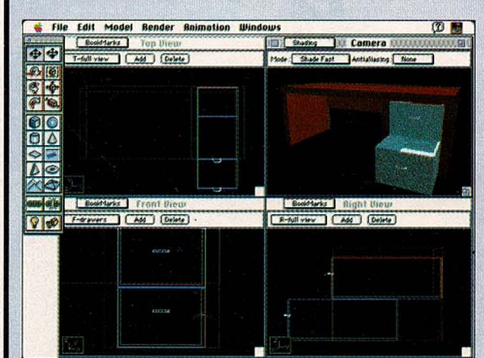
3D Demo
Requires: 3Mb free RAM, System 7 or later, colour monitor, *QuickTime* 1.6.1 or later, FPU (such as *SoftwareFPU* supplied)

When you launch the program, you're presented with four windows: Top, Front, Right, and Camera. These windows are all different viewpoints of the same 3D space. Imagine that they are the four walls of a fish tank. The standard views (front, top, right) are all fixed in terms of orientation – the viewing angle can't change.

The camera view is the view seen through a camera object that is inside your virtual fish tank. This camera can be moved and rotated to any position within the 3D world. If you zoom out in the top view, you can actually see and manipulate the camera object.

To zoom out in the Top View, click and hold on the **Panels** menu in the title bar of the Top View window. Move down to **Navigation** and let go. The Navigation Panel enables you to change which part of the world this view is seeing. Click and hold the Magnifying Glass with the minus sign in the Navigation panel several times. The camera object will come into view.

InfiniD's tool set is quite simple. The red tools are chiefly associated with object manipulation (movement, rotation, and scaling). The blue tools are for object creation. The green tools are for linking and unlinking objects. The pink tool adds a light source. The yellow tool creates a new camera object (and associated view window). The red ball with the dotted line around it is the Local Area Ray Trace tool. With this tool selected, drag around a region in a window that contains some objects. That region will be ray traced (complete with reflections, transparency, and shadows).

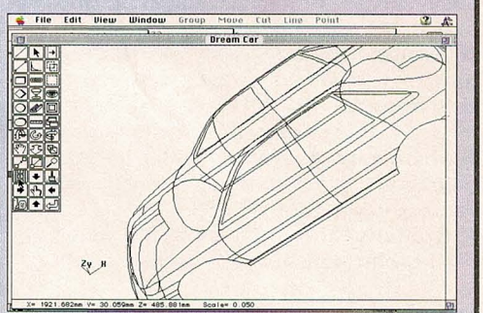


Infini-D enables you to view objects from three different angles, and see the final rendering all at the same time. So now you can design yourself a tidy house.

The object creation tools include: Primitives (sphere, cube, cone, cylinder, square, and plane); the editable lathe object (looks like a doughnut); the editable extrude object (looks like a 3D triangle); the freeform object (looks like a wrapped gift); and the terrain tool (looks like mountains).

Objects are created by selecting the desired tool and clicking in one of the view windows. Double-clicking on those objects which are editable will bring you into the appropriate editing environment.

You can create text objects by choosing **Text** from the **Model** menu. If you have 2D EPS artwork that you wish to turn into 3D, choose **Import** from the **File** menu, and then choose **EPS...** from the sub-menu. Open your EPS file from the standard **Open** dialogue box. *BL*



Try your hand at designing a new car with *MacConcept*. See if you can come up with something as elegant and as sexy as a Skoda – I pull loads of chicks in mine.

MacConcept

3D Modeller
Requires: 1Mb RAM

MacConcept is a 3D CAD (Computer Aided Design) program that owes more to traditional 2D engineering drawing programs than more modern modelling and rendering software. Nevertheless, it is quite useful to anyone who wants to produce 3D views of objects but present them as 2D line-drawings. For this reason it saves 3D models in its own format, but saves 2D drawings in EPSF and *ClarisCAD* formats.

MacConcept has a simple interface, like some engineering packages, but it provides the normal three plane and isometric views, plus a range of reasonably sophisticated tools. These include: move, rotate, and scale, lathe, extrude, group, and cut, as well as line-and-point editing. *BL*

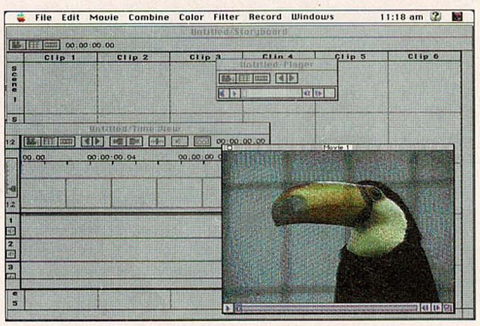
Your CD-ROM

Another month, another excellent CD. How do we do it each month? Well, a combination of hard work, dedication and a lack of a social life.

Creating three dimensional pictures on a two dimensional screen is a strange art, but we'll show you how it's done. Over the next few months we will be featuring various 3D programs, but to get you off to a marvellous start we have a special themed CD this month. Derek Smith takes a look at the contents...

- **Highlights:** this folder contains aliases of the best bits of the CD-ROM and is a good way to get started.
- **3D:** we bring you over 100Mb of 3D software to complement our on-going 3D series, which is this month's cover feature.
- **Floppy:** contains all the software off the first floppy disk on this month's magazine. The contents of the second floppy are in the **3D** folder.
- **Demos:** interactive and rolling demos of software featured in this and past issues.
- **Shareware City:** all the best software from the Internet to be released in the last month
- **Shareware in MACFORMAT:** contains most of the software reviewed in Shareware and PD, which starts on page 105.
- **Reader's Corner:** it's weird, it's wonderful, it's the software sent in by you, the readers.

Enough of the chat. Don those silly-looking 3D glasses and read on to find out about the great software we have this month...



Lights! Macintosh! Action! See how easy it is to create your own *QuickTime* movies with the demo of *VideoFusion*.

VideoFusion

Desktop video
Requires: 4Mb RAM, *QuickTime*

Following our desktop video issue last month, this issue we bring you a demo of *VideoFusion*, the challenger to the industry-standard Adobe *Premiere*. This is a save-disabled version, and it comes with several pre-created movies so you can jump straight in and see what the program is capable of. There is also a rolling demo of *VideoFusion's* little brother, *QuickFlix*. Designed for the home market, this program earned an impressive 86% in MACFORMAT 21.

The Crystal Rainforest

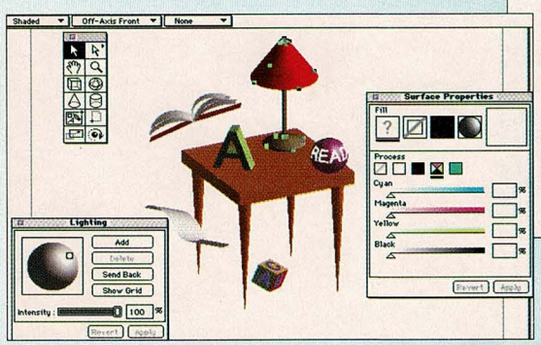
Education
Requires: colour monitor and System 7 or later

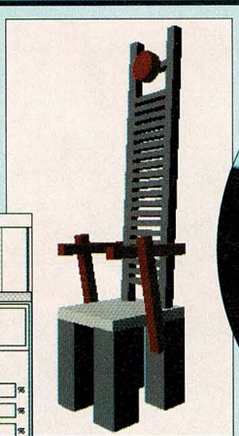
Sherston Software brings us politically correct, ecological education. Don't let that turn you off, though – this is a very good program and well worth a look. It was reviewed last month, and it scored an excellent 89%. Try it for yourself and see how you like it!

Also from Sherston is *Animated Numbers*. This is an ideal program for teaching mathematics to young children. For more details, you can contact Sherston on 01666 840433.

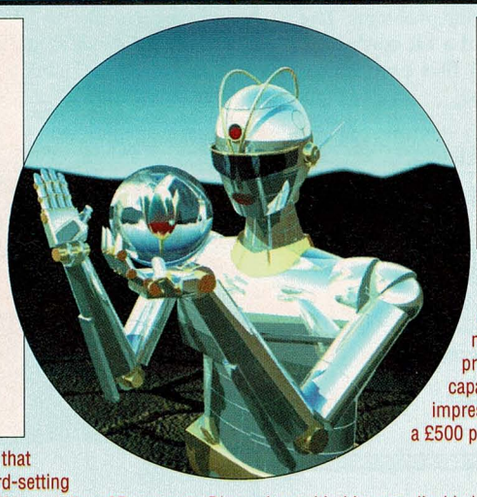
3D SPECTACULAR

There's well over 100Mb of 3D software this month to accompany our cover feature. As our 3D series progresses, we will continue to put more demos and sample files on the CD. Beware though: 3D programs tend to be pretty memory-hungry. For more details on each program, check the ReadMe files.

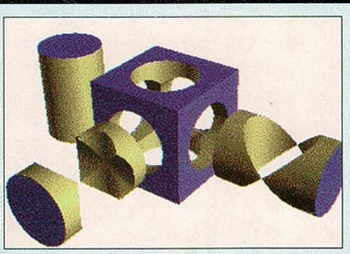




Adobe, the company that produces the standard-setting *Photoshop*, shows off its excellent 3D program *Dimensions* with this save-disabled but otherwise usable version. Included are samples and tutorials to get you started.



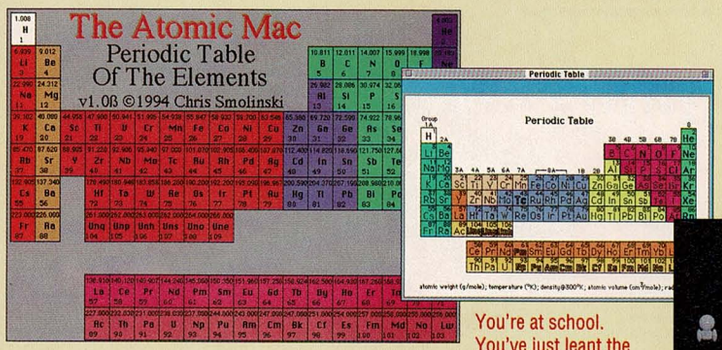
StrataVision is an excellent rendering and modelling program, and is capable of very impressive results for a £500 program.



Alias Sketch is a state-of-the-art rendering program requiring more memory than most. But the stunning effects that it can produce are worth the time and effort needed to draw pictures.

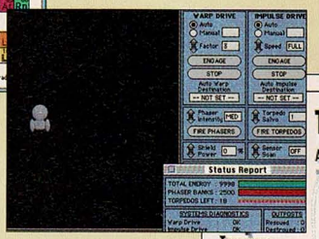
TOO MANY TO MENTION...

With over 600Mb and over 8,000 files on the CD, there's way, way, *way* too much to feature it all in depth. Here is a guide to some of the best bits.

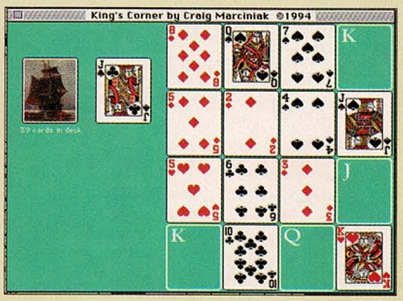


You're at school. You've just learnt the 13 times table... What happens? They produce this thing called a periodic table to learn! We have two programs, *Atomic Mac* and *LabHelper*, to ease the process.

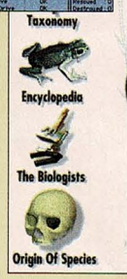
Prince of Destruction is a wonderful adventure where you get to be a hero and kill goblins. But just ask yourself, what did they ever do to you?



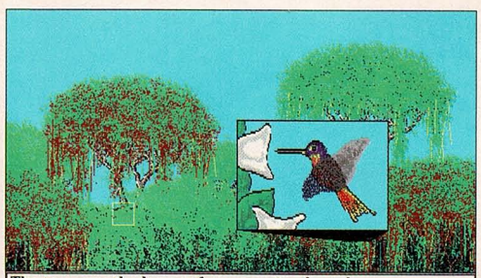
Rescue is an entertaining shareware space game where you leap around conquering and generally being aggressive.



Kings Corner is a great card game, but take my advice – never play cards against a computer. It cheats!



Sample the excellent *Living World* title which we review on page 54, and meet some of my best friends.



The trees are the homes for rare animals and plants.

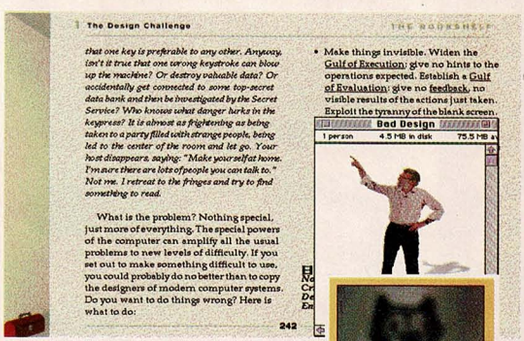
The simple bright graphics in these educational games really grab children and shake them awake (something banned in most schools nowadays, by the way).

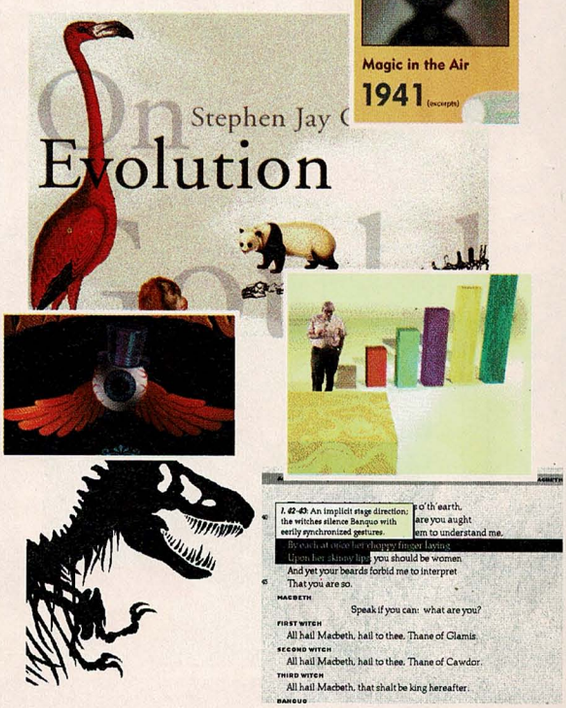
Voyager sample

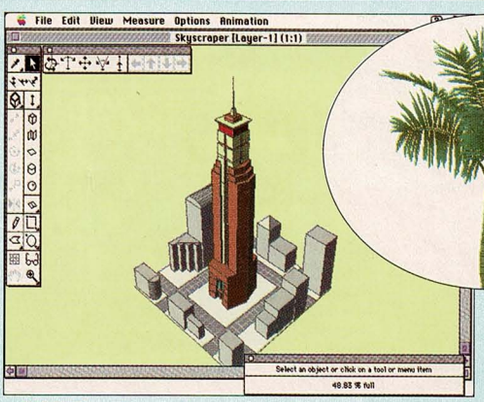
Multimedia
Requires: colour monitor

Macbeth, evolutionary theory, culture, facts... we got 'em all. On this month's CD there's a collection of rolling demos from Voyager, covering titles in this issue of MACFORMAT and several before it. To run them, all you need to do is double-click the projector icon; to stop them, press **[command] Q**.

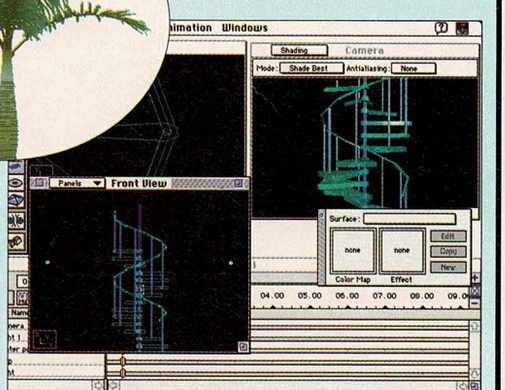
Voyager now have a huge range of titles on everything from evolution, to design, to Shakespeare. I wonder if the bard would have enjoyed multimedia?







If you ever need a professional-looking tree, then *Tree Pro* is definitely for you. This demo shows how the program can produce stunningly realistic trees by observing and copying nature.



upFRONT is an impressive addition to the range of available 3D software, offering sophisticated tools and options, but requiring only 2Mb RAM.

One of the most popular 3D packages (and on the disc this month), *InfiniD*, requires little RAM and hard disk space.

This is... computer warehouse

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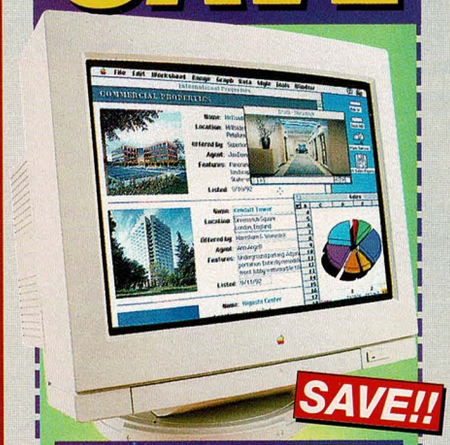

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P/MAC 7100/66DL

Pictured with optional 15" multiple scan monitor

TOP CW VALUE!

The Power Macintosh 7100/66DL is Apple's mid-range Power Mac and offers increased RAM capacity, NuBus expansion and faster processor and (optional) dual monitor support over the 6100/60. In addition it features a 66Mhz version of the RISC PowerPC 601 chip with 32K on-chip cache.
- 66Mhz 601 with 32k on-chip cache
- 3 NuBus expansion slots
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Pictured with optional 14" AV monitor & keyboard

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- 60Mhz Motorola PowerPC601 RISC processor
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POWER MACINTOSH 8100/80

Pictured with optional 17" monitor CD & keyboard

Apple's most powerful desktop computer and a CW 'Best Buy' for all those users who need maximum power and productivity from their Macintosh.The superb 8100 features an 80Mhz Power PC 601 processor with 32K on-chip cache and 256K memory cache to make mincemeat out of the most demanding applications. Expansion is awe-inspiring with 3 NuBus slots, 5 internal storage bays and capacity to use up to 264Mb of RAM.
- 80Mhz 601 with 32K on-chip cache
- 256K memory cache (makes all the difference!!)
- 3 NuBus slots for plenty of expansion ■ Ethernet
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- Dual monitor support ■ 8Mb RAM, exp to 136Mb
- Enhanced SCSI for faster data transfer

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The Home Of Multimedia Macintosh!

630 8/250 APPLE KEYBOARD 14" PERF+ COL. MON £899 + FREE SOFTWARE

SAVE MACINTOSH 630

SUPERB BUNDLE GIVES QUADRA 800 PERFORMANCE AND FREE HIGH VALUE SOFTWARE

With performance for most applications matching a Quadra 800 this CW recommended Mac is an absolute POWERHOUSE of a computer. And when you add the £££'s worth of FREE SOFTWARE it's an offer you can't afford to miss! Just look at what CW offers you..

- 66/33Mhz 68LC040 processor - the clock speed of a Macintosh Quadra 800!
- 8Mb RAM (Expandable to 36Mb) ■ 250Mb Hard Drive ■ Optional CD-ROM
- 14" Performa Plus color monitor ■ Apple Extended keyboard ■ Mouse
- 3 expansion slots ■ Support for 1,000s of colours (16-bit)
- Optional TV Tuner (for full screen TV or TV in window operation)
- Video support for 15" monitors (Check out the new 15" multiscan)
- Optional infra-red control of CD & TV
- Dual Hard Drive I/O (internal IDE, external SCSI)
- Optional Video IN for recording video clips
- **Plus All this great software - FREE!!**

Home Publisher DTP package, Touchbase, Datebook, Aldus TypeTwister, Thinking Things & Spectre Supreme.

ALL THIS GREAT SOFTWARE - FREE!!

HOME PUBLISHER - Superb value DTP & layout package from the makers of PageMaker (Aldus)
DATEBOOK - Excellent appointment scheduler
TOUCHBASE - Contact manager & letter writer
TYPETWISTER - Amazing things with type
SPECTRE SUPREME & THINKING THINGS

Minimum packaging Boxes for illustration purposes only.

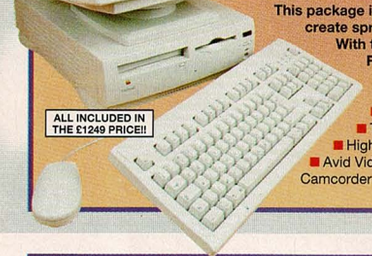
MAC 630 8/250 + KEYB + PERF. PLUS 14"

LIMITED STOCKS + FREE S.WARE £899

£1056 inc VAT

EXCLUDING VAT DOES NOT INCLUDE CD-ROM DRIVE

SUPER ALL-IN-ONE 630 CD/TV WITH 14" MONITOR & KEYB.



This package is all you need to create movies, watch TV, play audio CD's, write letters, create spreadsheets, draw pictures, organise data and all in glorious colour. With the built-in TV Tuner you can watch you favourite TV programs and with the FREE VideoShop software you can capture video clips and build QuickTime movies - complete with amazing cinema effects & titles!! This amazing package includes EVERYTHING!

■ Macintosh 630 with 8Mb RAM ■ 250Mb hard Drive ■ CD-ROM drive ■ Mouse ■ TV tuner ■ Video In ■ Infra red remote control ■ Apple Design Keyboard ■ High quality 14" Performa Plus colour display ■ Claris Works 2.1 integrated software ■ Avid Video Shop movie editor for editing your video clips captured from VCR or Camcorder - Play director and create stunning movies!!

IT'S ALL HERE - NOTHING ELSE NEEDED!!

630 8/250 CD + TV + KEYBOARD + 14" COL.

PLUS OVER £300* OF FREE SOFTWARE £1249

Ex VAT £1467 inc VAT

EX.VAT. INCLUDES CD, TV TUNER, VIDEO IN MONITOR & KEYBOARD

*Total estimated retail price of free software

MACINTOSH 460

THE LOW-COST HIGH VALUE MAC!

The superb Macintosh 460 features a zippy Motorola 68030 processor running at 33Mhz which makes it the machine of choice for general business, education and home entertainment tasks.

- 33Mhz 68030 - fast as a Macintosh IIvx!
- 4Mb of on-board RAM (expandable to 36Mb)
- 160Mb internal hard drive fitted
- LC expansion slot (for accelerators, Ethernet high speed networking etc)
- Colour monitor support to 16"
- Complete with System 7
- Desktop mouse
- **Your low-cost entry into Mac computing!**
- **Add a CD-ROM Drive for £99!!**

MACINTOSH 460 4Mb RAM 160Mb DRIVE

LIMITED CW WINTER SAVER £499

£586 inc VAT

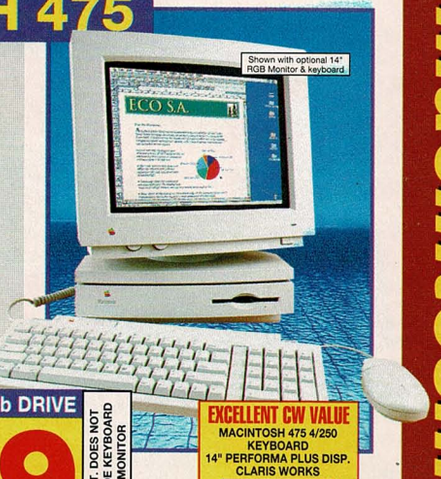
EX.VAT. DOES NOT INCLUDE KEYBOARD OR MONITOR

MACINTOSH 475

ONE OF THE BEST VALUES OF ALL-TIME!!

The entry level 68040 Mac & a real speed demon! Runs at a Quadra 700 matching 25Mhz and is ready to rip through CW's business, office dtp and edutainment tasks with gusto. In this strictly Limited Offer CW can offer this superb machine at near cost price!!

- 25Mhz 68040 processor (as fast as Quadra)
- 4Mb RAM (exp 36Mb) • 250Mb hard drive
- SCSI port for adding CD-ROM etc
- LC expansion slot for adding acceleration
- Upgradable to PowerPC etc
- Colour support to 21"
- Complete with desktop mouse & System 7 operating software
- **LIMITED STOCKS AT THIS PRICE!!**



MACINTOSH 475 4Mb RAM 250Mb DRIVE

LIMITED CW WINTER SAVER £599

£704 inc VAT

EX.VAT. DOES NOT INCLUDE KEYBOARD OR MONITOR

EXCELLENT CW VALUE
MACINTOSH 475 4/250 KEYBOARD 14" PERFORMA PLUS DISP. CLARIS WORKS
£799.00

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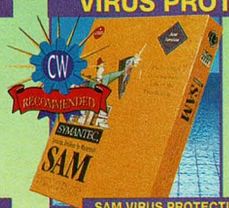
CW'S GREAT 1995 SOFTWARE BONANZA

THE VALUE DATABASE

Top value relational database. Use 4D First to automate invoicing, track clients, maintain mailing lists or organise any data.

4D FIRST RELATIONAL DATABASE
NOW FOR POWER MAC! £99.00 EX VAT £117 inc VAT

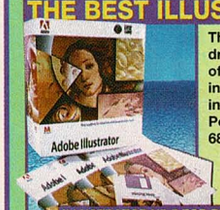
VIRUS PROTECTION



If you think viruses only affect other people, think again. It can and will happen to you sooner or later. CW's recommended protection.

SAM VIRUS PROTECTION (EX UPGRADES)
NOW FOR POWER MAC! £39.00 EX VAT £46 inc VAT

THE BEST ILLUSTRATION



The postscript drawing package of choice. This incredible deal includes 5.5 Power Mac and 680X0 versions + a great CD packed with goodies

ILLUSTRATOR V5.5 FOR PPC & 680X0 MACS
NOW FOR POWER MAC! £279 EX VAT £328 inc VAT

THE BEST OCR AROUND

Fed up with typing - got yourself a scanner? Then why not invest £69 in the best OCR software around and get TextBridge. - Now PPC native!

CW RATED TEXTBRIDGE OCR SOFTWARE
NOW FOR POWER MAC! £69.00 EX VAT £81 inc VAT

WORD PERFECT + FILEMAKER

2 great packages for £200!!
- Word Perfect - powerful word processing
- Filemaker Pro - best selling database
- Limited Offer, Call CW NOW!!

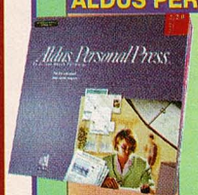
INTEGRATION W. PERFECT + F.MAKER £199 £234 inc VAT

MICROSOFT OFFICE 4.2

Amazing value from Microsoft
- Excel - FULL VERSION
- Word - FULL VERSION
- PowerPoint - FULL VERSION
- Plus Mail and integration software

MICROSOFT OFFICE EXCEL, WORD, POWERPOINT £299 £351 inc VAT

ALDUS PERSONAL PRESS v1



Amazing DTP package
- Great for newsletters, greetings cards, ads, brochures, leaflets etc.
- From the makers of PageMaker
- Best Value!

PERSONAL PRESS ALDUS DTP PACKAGE £29 £35 inc VAT

IMSI TURBOCAD

Great value CAD package
- Design office layout, landscape gardens etc.

TURBOCAD VALUE CAD PACKAGE £69 £81 inc VAT

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With this super-deal from the UK's leading graphics specialists you get a full Adobe Photoshop V3 package AND and KPT TRIX
Version 3 supports multiple layers so you have the freedom to experiment with ease. Subject on one layer, background on another, shadow on another - Move any independently. It's the CW easy way of image manipulation. Also new in v3:
- Superb new layers feature makes for easy image composition
- New lighting effects - apply virtual lights!
- Color range masking
- Gamut warning
- Selective color correction
- Sponge tool • Automatic dust & scratch removal

FREE KPT TRIX CD Packed with power user tips, plug-ins, shareware, art and everything you need to get the best out of Photoshop!!

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AND FREE KPT TRIX
Adobe Photoshop
Adobe Photoshop 3.0
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KPT TRIX EFFECTS CD-ROM FREE
WITH ADOBE PHOTOSHOP VERSION 3

ADOBE PHOTOSHOP v3 + FREE KPT TRIX
V3 WITH FREE KPT TRIX £399 EX VAT £469 inc VAT

THE LOWEST XPRESS PRICE!

When it comes to value you just can't beat CW and here's the deals to prove it. Genuine UK supplied Quark Xpress version 3.3 at incredible savings on the rrp prices. Hurry - limited stocks!
- Drag & drop colour & text
- Full CMYK separation
- Object and text rotation to within 0.001°
- Horizontal and vertical text scaling
- EfiColor management
- Direct import Kodak PhotoCD

QUARK XPRESS v3.3 MACINTOSH
LIMITED SUPER SAVER £549 EX VAT £645 inc VAT

QUARK XPRESS v3.3 POWER MACINTOSH
£649 EX VAT £763 inc VAT

SAVE ££'s AT CW ON VALUE PRINTERS

STYLEWRITER II

INKJET FOR LESS THAN £200!!
Advanced inkjet technology delivers 'laser-like' printing at 360dpi and 2 pages per minute.
- 360dpi ink-jet Cannon engine
- Plain paper or envelopes
- 39 TrueType fonts • Apple branded

STYLEWRITER II 360DPI PRINTER
PLUS FREE FUN FONTS £199 EX VAT £234 inc VAT

COLOR STYLEWRITER PRO

360DPI COLOR PRINTER
CMYK A4 color printer.
- ColorSync™ color-matching
- 4 ink cartridges - CMYK
- Tray for 100 sheets of paper
- A real performer - ideal for visuals, presentations and general color work
- CW Recommended!

APPLE COLOR STYLEWRITER PRO
PLUS FREE FUN FONTS £399 EX VAT £469 inc VAT

LASERWRITER 300 PERSONAL

GENUINE APPLE LASER @ LESS THAN £400!
The Apple Personal LaserWriter 300 brings you laser quality printing for the price of an inkjet.
Just check these features:
- 300dpi genuine Apple laser quality
- 39 scalable TrueType fonts included
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- 4ppm operation
- **FREE Monotype Fun Fonts - packed with over 250 display and picture fonts!**

300DPI PERSONAL LASERWRITER 300
PLUS FREE FUN FONTS £399 EX VAT £469 inc VAT

TOP BRAND 360dpi COLOR

360dpi COLOR PRINTER
CW's famous brand 360dpi Thermal transfer color printer prints in monochrome & color to plain paper & transparencies.
- 360dpi Thermal Transfer
- Apple QuickDraw compatible
- Full color or monochrome modes
- Prints to A4 plain paper, transparencies
- Ideal for home office use
- 15 TrueType fonts FREE
- Serial (printer port) connection
- Easy to set-up and use
- **Lowest priced color printer in the UK!**

CW FAMOUS BRAND 360DPI COLOR PRINTER
"FAMOUS" BRAND 360DPI COLOR PRINTER £169 EX VAT £199 inc VAT

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FILE PAD	£99
QUICK FIGURE	£29
EXPENSE PLUS	£49
MONEY MAGAZINE	£29
FODOR'S 94	£39
MOBILE CALC	£39
COLUMBO'S MYST CAPERS	£29
FINGERTIP GOLF	£59

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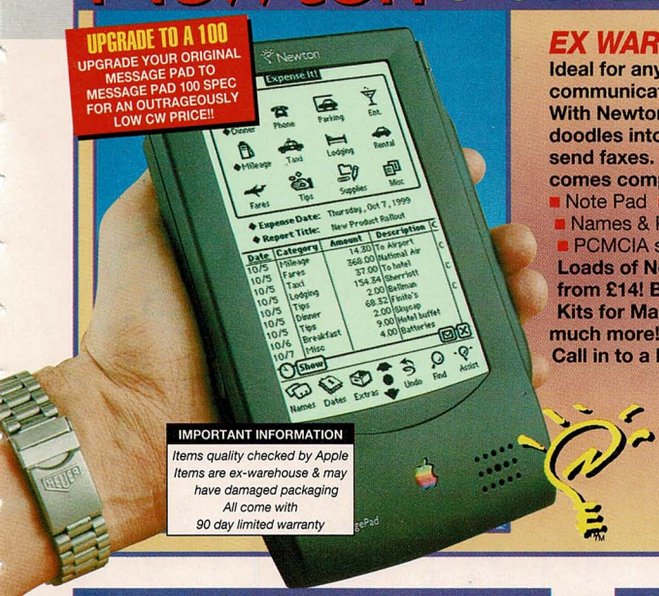
Authorised Reseller

"Here we go it's '95 and with these great deals I feel alive!"

Newton™ @ CW LESS THAN £100

UPGRADE TO A 100
UPGRADE YOUR ORIGINAL MESSAGE PAD TO MESSAGE PAD 100 SPEC FOR AN OUTRAGEOUSLY LOW CW PRICE!!



IMPORTANT INFORMATION
Items quality checked by Apple
Items are ex-warehouse & may have damaged packaging
All come with 90 day limited warranty

EX WAREHOUSE MESSAGE PADS

Ideal for anyone who needs to gather, organise and communicate information. And at LESS THAN £100! With Newton you can organise your life, take notes, turn doodles into drawings, format and print letters, - even send faxes. (Requires Comms System). Each unit comes complete with a 90 day limited warranty.

- Note Pad
- To-do List
- Names & Phonebook File
- PCMCIA slot
- Weighs only 1 pound.

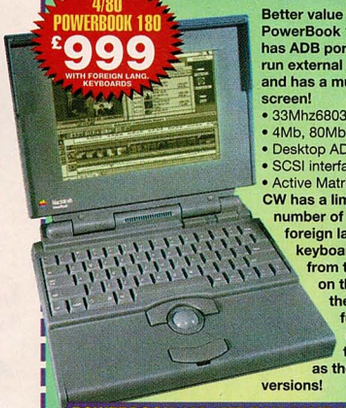
Loads of Newton accessories in stock and ready to go from £14! Batteries, masses of Software, Connection Kits for Macintosh & Windows, Carry Cases, Cards & much more!

Call in to a Newton Superstore today!!

NEWTON MESSAGE PAD
LIMITED OFFER SUPER SAVER £99
£117 inc VAT
EX WAREHOUSE STOCK, MAY HAVE DAMAGED PACKAGING

BEST VALUE POWER BOOKS

4/80 POWERBOOK 180 £999 WITH FOREIGN LANG. KEYBOARDS



Better value than a PowerBook 150. - 180 has ADB ports, can run external monitor and has a much better screen!
- 33Mhz68030
- 4Mb, 80Mb Drive
- Desktop ADB ports
- SCSI interface
- Active Matrix display

CW has a limited number of 180s with foreign language keyboards. Apart from the legend on the keys they function exactly the same as the UK versions!

POWERBOOK 180 4MB RAM 80MB H.DRIVE
ONLY A FEW LEFT £1099
EX VAT £1291 inc VAT

MESSAGE PAD 110

Illustrated with optional Time Out software

NEW! PRODUCT

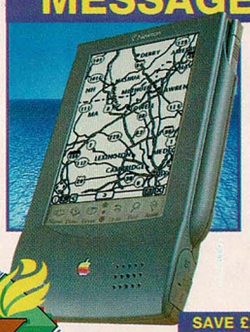
NEW & BOXED WITH FULL 1 YEAR WARRANTY!

NEWTON MESSAGE PAD 110

More than 3 times the memory space and twice the battery space of the original. Can connect with your Apple Macintosh™ computer or Windows-based PC (with optional Newton Connection Kit)
- 20MHz ARM 610 processor
- 1MB RAM, 4MB ROM
- LocalTalk™ compatible
- Exchange data with Mac computer or PC
- Group 3 Fax compatible

NEWTON MESSAGE PAD 110
LIMITED SUPER SAVER £399
EX VAT £469 inc VAT

MESSAGE PAD 100



BEST VALUE

NEW & BOXED WITH FULL 1 YEAR WARRANTY!

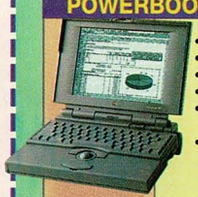
MESSAGE PAD 100

New 'intelligent' companion to help organise your life! And now on an incredible pre-Christmas deal from CW!
- ARM 610 processor running at 20Mhz
- Large-screen reflective LCD display • 4Mb ROM
- 640K RAM
- Built-in LocalTalk port
- PCMCIA slot
- Infra-red transceiver

Hurry CW on has limited stocks of this super-deal!

SAVE £200 ON MESSAGE PAD 100!
WINTER SUPER SAVER £169
EX VAT £198 inc VAT

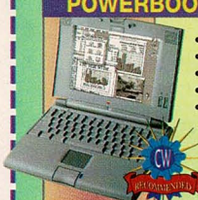
POWERBOOK 150



- 33Mhz 68030 processor
- 640 x 480 pixel grey screen
- SCSI interface
- 4Mb RAM memory
- 120Mb Drive
- **Free Claris Works**

POWERBOOK 150
4mb RAM 160Mb H. DRIVE
£939
£1103 inc VAT

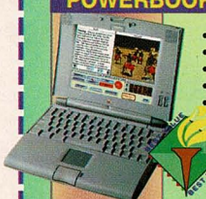
POWERBOOK 520



- 25/50Mhz '040 • Ethernet
- Trackpad • Greyscale display
- 4Mb RAM - exp to 36Mb
- 160Mb drive
- Direct color out to 16"

POWERBOOK 520
4mb RAM 160Mb H. DRIVE
£1399
£1644 inc VAT

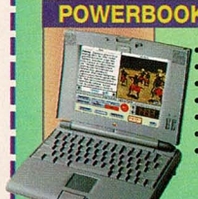
POWERBOOK 520C



- 25/50Mhz '040 • Ethernet
- New Trackpad
- Dual Scan 256 color display
- Direct color out to 16"
- PDS slot

POWERBOOK 520C
4mb RAM 160Mb H. DRIVE
£1899
£2231 inc VAT

POWERBOOK 540C



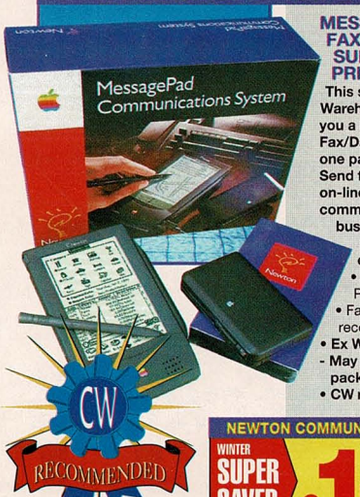
- 33/66Mhz '040 • Ethernet
- New Trackpad control
- Active Matrix color display
- 12Mb RAM • 500Mb drive
- Direct color out to 16"
- PDS slot
- **CW BEST**

POWERBOOK 540C
12mb RAM 500Mb H. DRIVE
£3199
£3759 inc VAT

NEWTON ACCESSORIES

Leather Carry Case For Message Pad & 100	£34
Leather Carry Case For Message Pad 110	£44
Battery Pack Re-Charger For Message Pad	£29
Re-Charger Cradle & AC Adaptor For 110	£44
1MB Storage Card For 110 & 100	£49
2MB Storage Card For 110 & 100	£99
Connection Kit For Macintosh v1	£59
Connection Kit For Windows 110 & 100	£59
Ni-Cad Battery Pack For Message Pad & 100	£14
Ni-Cad Battery Pack For Message Pad 110	£19

COMMS SYSTEM



MESSAGE PAD + FAX-MODEM SUPER-LOW PRICE!!

This superb Computer Warehouse bundle gives you a Message Pad and Fax/Data modem all in one package.
Send faxes, hook up to on-line services and communicate with business colleges and friends the world over!
- Newton Message Pad
- Fax Fax/Data send and receive modem
- **Ex Warehouse**
- **May have damaged packaging**
- **CW recommended**

NEWTON COMMUNICATIONS SYSTEM
WINTER SUPER SAVER £149
EX VAT £175 inc VAT

TWO SUPER CW STORES

COMPUTER WAREHOUSE 1
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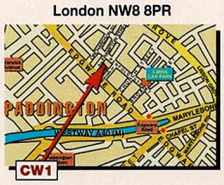

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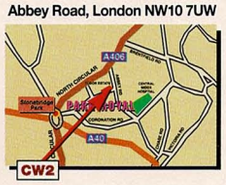

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Just picture it,

with a Sicos Scan... you can!

for just £399.95 + VAT

Which other 24-Bit Desktop Colour Scanner...

Scans at up to 1200dpi, comes with both EasyReader™ OCR (Optical Character Recognition) Software and ColorStation Pro LE-E™ RGB Image Manipulation Software (with Photoshop™ plug-in compatibility), is supplied ready for use - complete with a SCSI cable and terminator, allows you to scan in modes of 16.7 million colours - lineart - halftones - 256 greyscales, incorporates a document feeder (for suitable paper types), includes its own dust cover and... Costs so Little?

You get more £ for £ value with a Sicos™ than any other A4 colour scanner for your Macintosh™!

With the Sicos Desktop Colour Scanner you will...

Scan at superior speeds to flatbed scanners, use a minimum of your valuable desktop space with its small footprint of little more than an A4 sheet of paper, automatically input text from documents to save you having to re-type them, place mono or colour photographs on your Mac screen and add a myriad of effects with its image manipulation software, transfer scanned text or photos into your other programs and lots more... Why not call in and see the new Sicos™ for yourself, or... order today by simply telephoning 01 773 836781

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the UK's favourite Apple reseller!

Authorised Reseller

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Telephone: 01 773 836781 Facsimile: 01 773 831040

SICOS® Colour Desktop Scanners

System requirements: Apple™ Macintosh™ with a min. of 4Mb RAM and 10Mb. of free disk space operating on System 6.0.4 or higher and a SCSI bus with one free device plus a colour monitor with a minimum control panel setting of 256 colours capability.

All Trademarks recognised.

MACFORMAT NEWS

Clones are coming, and the games console meets the Mac. Richard Hill forgets the flowers and goes to San Francisco...

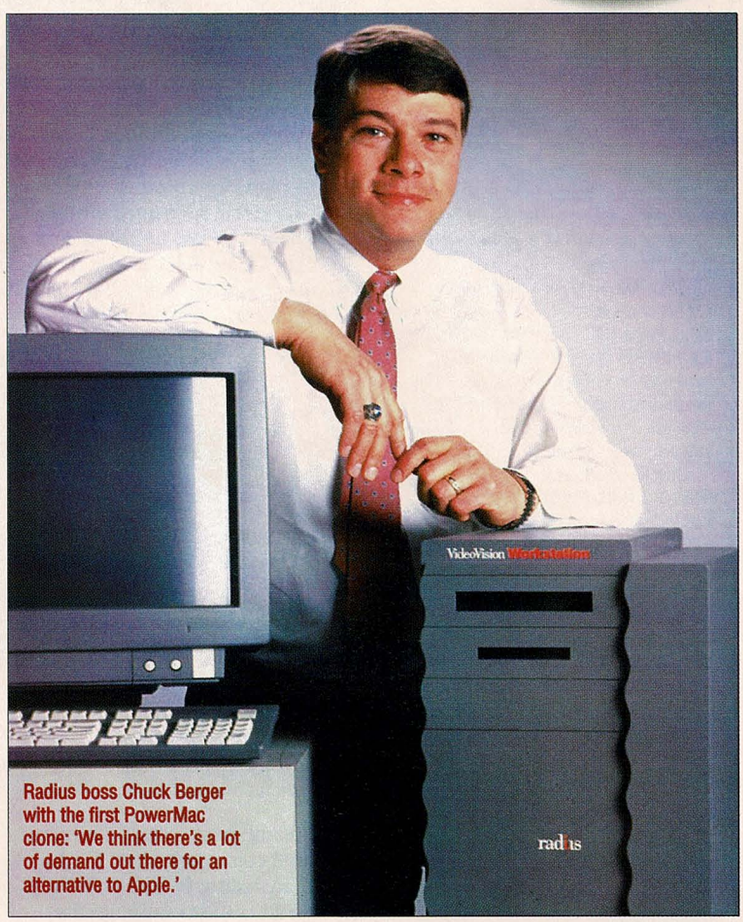
Mac clones storm Expo

The first non-Apple PowerMacs were revealed at the *Macworld* Expo in San Francisco last month, promising low prices and big advances in desktop video production. A number of alternative machines running Mac OS (the Mac operating system) will be available later this year, as the 72,000 show visitors heard. The announcements were the biggest surprise of the Expo and set the halls buzzing.

Power Computing, a brand-new company from California, will be making PowerMac components to sell to other companies who join the Apple licensing scheme. It will also be making and selling its own versions. Stephen Kahng, head of Power, says his PowerMac clones will be on sale by summer '95.

Radius had a prototype of the VideoVision Workstation, a machine using the same chip and operating system (OS) as the Mac, but with Radius-designed graphics cards and software to boost the video capabilities. The Workstation will be aimed at video-editing professionals and companies, but the pricing and release date haven't been decided yet. Chuck Berger of Radius told MACFORMAT: 'We're the only company other than Apple that has made a Mac system in the past – our Rocket products are Quadra 950s on a card.'

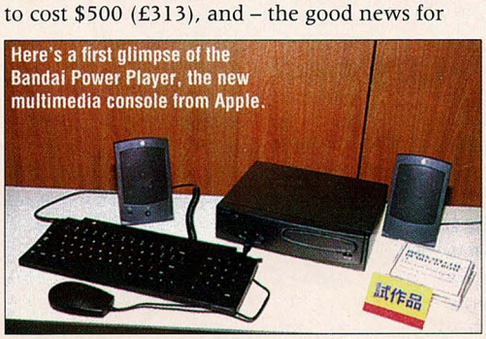
Despite all the Mac alternatives that are going to be around there won't be any problem identifying the clones: none will be called 'Macintosh' – Apple is keeping that name for itself. But it's clear that your choices for new machines can only get wider and better.



Radius boss Chuck Berger with the first PowerMac clone: 'We think there's a lot of demand out there for an alternative to Apple.'

Mighty Morphin' Power Players

A TV-console that plays Mac CD-ROMs as well as its own games should be on shop shelves by Christmas. Designed by Apple, it's being made by Bandai, a company better known for its Mighty Morphin' Power Rangers toys and its co-operation with Nintendo when the Super Nintendo was launched. The console is expected to cost $500 (£313), and – the good news for Mac users – its games will be Mac compatible.


Here's a first glimpse of the Bandai Power Player, the new multimedia console from Apple.

With the growing popularity of multimedia, the Power Player will appeal to families who might otherwise have bought a games console like the Super Nintendo or the forthcoming Sony PlayStation. As well as games, owners will be able to use encyclopedias or education titles – all on the same machine.

Apple calls the new machine design 'Pippin' (mentioned briefly in MACFORMAT 20). Pippin uses the super-fast PowerPC 603 chip – yet to appear in any Apple computer – and a quad-speed CD-ROM drive, which is twice the speed of most of the drives you can buy. It will play CD-quality stereo sound and display millions of colours. Other companies are expected to be bringing out consoles based on Pippin.

Like any console, the new machine won't come with a keyboard or mouse (although these can be connected), but will use pad controllers – up to four people can be connected at once. There's also a slot for fitting additions like a hard drive or a graphics accelerator. You could even build up a PowerMac piece by piece!

Some of the companies who have confirmed they're developing programs for Pippin include Bandai itself, LucasArts (the maker of *Rebel Assault*) and Cyan (who made *Myst*). Japanese titles coming to Pippin include *Dragon Ball Z* and *Ultraman* (a cult Japanese super-hero).

Pippin will use a slightly modified version of the Mac OS, so you'll be able to buy Pippin CD-ROMs and use them on your Mac. Mac CD-ROMs will run on Pippin with some slight alterations. Your current CD-ROMs won't work on it but future Mac releases are likely to be set up so that they will work on either platform. Of course, more machines running Mac CD-ROMs should mean that we start to see more Mac games and multimedia titles on sale.

Big guns unveiled at Expo '95

APPLE BYTES

Phoneday's coming

Britain is running out of phone numbers! BT's solution is to add an extra digit to our area codes. From Sunday 16 April you'll need to add a 1 after the first 0 – so 071 for Central London becomes 0171, while 0225 for Bath becomes 01225.

Five codes change entirely – Leeds (0532) now becomes 0113 2, Sheffield (0742) becomes 0114 2, Nottingham (0602) becomes 0115 9, Leicester (0533) becomes 0116 2 and Bristol (0272) changes to 0117 9. The single digits at the end of each the new codes are added to the front of the existing local numbers in each region. So if you live in Bristol and you're just making a local call, you'll need to dial the 9 before you dial the phone number.

Special codes, such as the free 0800, the local rate 0345 and those lovely, profitable premium rate codes (0898, 0891, 0881, 0839, ad infinitum) stay exactly the same.

The international code is also changing from 010 to 00. If you're calling Britain from overseas, you'll still need to ignore the 0 at the front of the local area code, but you should dial the 1. Dial London, England on 44 for Britain, followed by 171 and the rest of the number.

The two things Phoneday is guaranteed to do are (a) confuse *everyone*; and (b) screw up all Mac database files with phone numbers. But don't worry: MACFORMAT has the solution! See our Phoneday feature on page 80 to find out more.

eWorld price cut

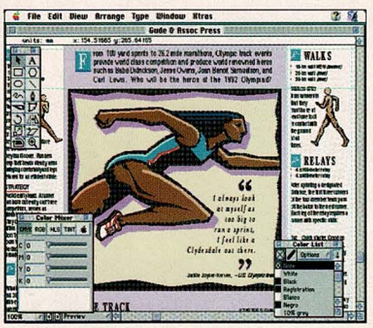
With the increasing competition among on-line services Apple is cutting its hourly rate for using eWorld from $4.95 to $2.95. The monthly subscription remains at $8.95. For more details contact Apple on 0181 730 2204. See also 'What's New' in MACFORMAT 19.

Computer Optics

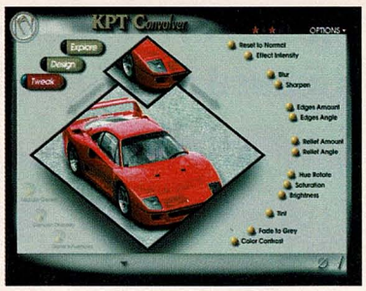
If you work on your Mac for long spells, you may find your eyes get tired. One answer is a screen filter to darken the whole screen. Gepro is offering an alternative in the shape of Computer Optics spectacles, which are tinted and shade your eyes from ultraviolet light. Gepro is offering you a discount of £8 off its normal prices if you mention MACFORMAT. This means the spectacles are £24.99, or there are clip-ons if you already wear glasses for £21.99 – both pairs also require £1.99 postage and packing. Write to Gepro, Freepost MB1927, Keston, Kent BR2 6BR – or call Gepro on 01689 851206 for details.

This year's San Francisco Expo saw some major Mac releases and upgrades. *FreeHand*, the design and illustration tool, is now out in version 5.0. It also has a new publisher, Macromedia, which has ambitious plans for enhancing *FreeHand* further and making it a capable multimedia tool.

FreeHand 5.0 has been speeded up and extra features have been added, including multi-colour gradient filling, improved text handling with style sheets, and a spell checker. The new version also accepts drop-ins – sub-programs similar to Adobe plug-ins. Macromedia and other companies will be adding drop-ins to extend *FreeHand*'s functions further.



The new-look *FreeHand* offers a wider range of design, illustration and text tools than ever before.



KPT Convolver packs a mighty graphics-processing punch in an unusual package – can you get five stars?

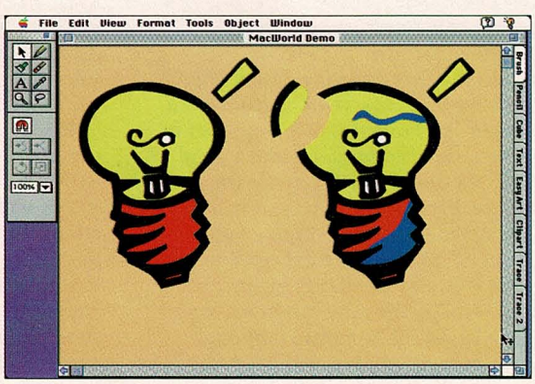
FreeHand 5.0 costs £529. If you have an earlier version, you can buy 5.0 for £116.33 before Saturday 15 April (after that it will be £147). For more details contact Computers Unlimited on 0181 200 8282 – and look out for the MACFORMAT review soon.

The makers of *Kai's Power Tools* and *KPT Bryce* released a graphics processor, *KPT Convolver*. It's capable of altering your images with spectacular effects. But using the progam is a fairly leisurely affair thanks to creator Kai Krause's distinctive interface. You start with the basic tools. As you explore the program, trying things out, you're rewarded with a star that marks your rising level of competence. Only the most proficient users receive the maximum five stars and get to use reportedly staggering facilities. *KPT Convolver* is on sale now for £152 – for more details contact Principal Distribution on 0181 813 5656.

Mass market Mac extras

Americans spent more on buying personal computers than TVs in 1994, according to one electronics association, and companies are changing their products to respond to the proliferation of Macs in the home or small business. There's a growing recognition of the demand for programs or devices that do a specific job very well and are easy to use and fairly cheap.

SmartSketch from FutureWave is a $99 (£62) drawing program with lots of simple ideas to make art on the Mac easier than ever. Basic drawing tools are given an extra flourish with imaginative touches like the Paint Behind function. Fill in a shape with your brush, but don't worry about going over the edge – *SmartSketch* tidies it up for you. This Spring release hasn't got a British distributor at the moment, but it can't be long – look out for a full review in MACFORMAT. For more details contact FutureWave on 00 1 619 637 6191.



Drawing, cutting out, filling in – it's all simple with *SmartSketch*, one of a wave of bargain software releases.

PaperPort is a $399 (£249) compact scanner that resembles a StyleWriter printer. You can feed in a design or photo and the scanner will convert it into an electronic document that your Mac graphics program can use. The software is designed to make the process of scanning and displaying your image as simple as possible. There is also a $49 (£31) kit that enables you to scan an image straight into an e-Mail document that can be sent across the Internet. For more details contact Visioneer on 00 1 415 812 6400.

The £164.44 QuickCam is already on sale in Britain, and we'll be featuring it soon. It's a miniature video camera and the cheapest way of getting home-made video onto your Mac, although it records only in black-and-white for the moment. It's made by Connectix, which is launching an inventive range of software to go with it. *QuickCards*, out at the end of February, is a multimedia greeting cards maker. You have 60 designs with the program, covering every occasion from Valentine's Day to Congratulations On Your New Baby. With the QuickCam, you can record your own message and incorporate it into the design. The finished card fits onto a floppy disk. For more details contact Computers Unlimited on 0181 200 8282.

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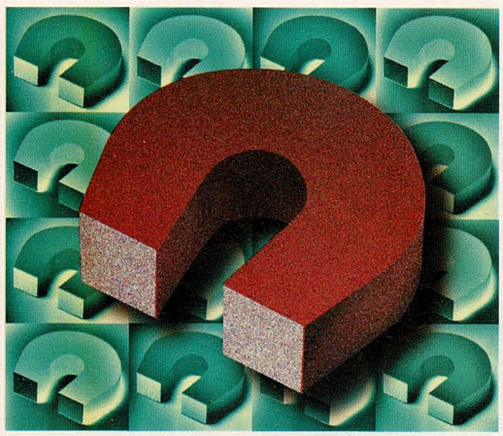
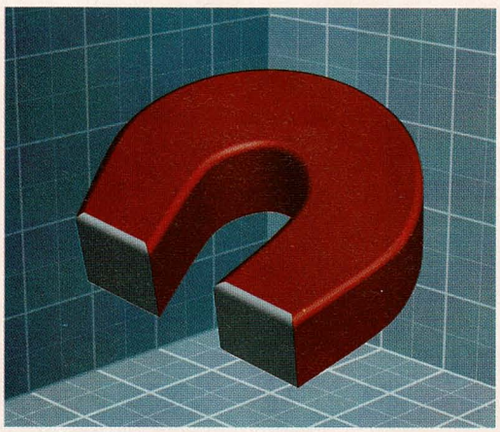
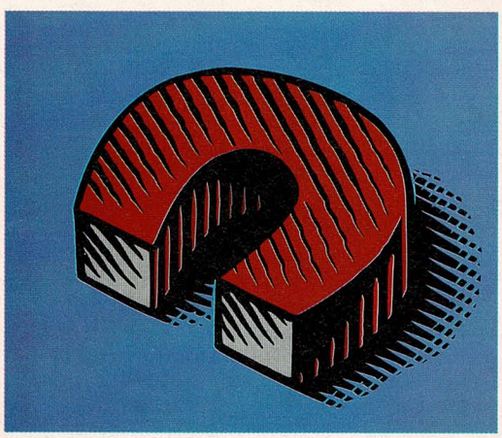


Adobe Photoshop™ – the industry standard for photo design and production. Helps you create original artwork, or retouch and correct scanned images using image editing tools and filters.



Adobe Dimensions™ – an easy way to add 3D effects to your artwork. Allows you to extrude, revolve and manipulate paths and text.



Adobe Illustrator™ – a leading illustration and page design tool. Makes it easy for you to create and refine electronic artwork.

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Pentium problems deepen

The Pentium PC, the PowerMac's closest rival for the accolade of fastest personal computer, has had a bumpy ride lately, after a design fault with its main chip came to light. The chips in Pentium machines give an incorrect answer to a tiny minority of calculations. Intel, which makes Pentiums, claims that it should affect only a small number of owners – mostly scientists and mathematicians, who use their machines to perform sophisticated tasks.

Fortunately, it's easy to locate the problem if you know which numbers to enter. And in any case, the problem crops up only rarely...

But what should have been a minor matter has exploded in Intel's face. The problem has apparently existed since the Pentium was launched, but has been confirmed by the company only recently (as a MACFORMAT reader discussed in last issue's Apple Talk). Intel at first announced that despite the fault, it would only replace Pentiums owned by people who could show they used them for specialist tasks.

It has now undertaken to replace the main chip on any faulty Pentium machine, while IBM is refusing to sell any of its Pentium machines until the problem is solved. The company says its own tests show the fault is more serious than Intel claims.

As well as showing the importance of dealing with potential problems straight away rather than burying them, the story of the Pentium also raises the issue of whether chip design is becoming too complicated. Even with modern technology, how feasible is it for complex chips to be manufactured with 100% accuracy?

Well, this goal could be in sight. There is some research into computers using parallel processors – simple chips working alongside each other, rather than one central processor controlling everything.

Cache in on PowerMacs

The entire PowerMac range has been revamped with faster chips and increased hard drive sizes. And if a new Mac is beyond your means, you could turn your current machine into a PowerMac with a new range of cards from DayStar Digital.

The most popular PowerMac to date, the 6100/60 is replaced by the 6100/66 (the second number refers to the speed of the chip). A 256K memory cache has been added, which makes the PowerMac 6100/66 work even faster. With hard drive capacity increased from 250Mb to 350Mb, the PowerMac 6100 keeps its old price of £1,526 (not including keyboard or monitor).

The 7100/80 replaces the 7100/66. This also gets a memory cache for extra speed. There's a slight increase in price for this model, with the 350Mb hard drive version costing £2,291. The 8100/100, on the other hand, is actually cheaper than its 8100/80 predecessor, at £3,261 for the 700Mb hard drive version. All PowerMacs have 8Mb of RAM, and CD-ROM versions are available. For more details contact Apple on 0800 127753.

The PowerCard 601 is the first of the DayStar Digital upgrade cards to turn your Mac into a PowerMac. Like all the cards, it enables you to switch between your old processor and your new one. It fits into the Performa 475 and 630 or their LC equivalents. The PowerCard runs at twice the speed of your Mac's existing chip – either 50Mhz or 66Mhz. The card is available now, and costs approximately £664.

The Turbo 601 fits into any Mac IIci, IIvi, IIvx or Performa 600, changing it to a PowerMac with a 66MHz 601 chip and 256K memory cache. Your Mac II can run at the same speed as the brand-new 6100. DayStar claims an increase in performance, when running PowerMac software, of up to eleven times your Mac's old speed. The Turbo 601 is out in March and costs around £1,228.

A 100MHz version of the Turbo 601 follows in April. This £2,309 version takes your humble II series Mac up to the level of the new PowerMac 8100. For more details contact Aptec on 0171 627 1000.

Improved chips and a dedicated memory cache means that the PowerMac 8100/100 goes faster for less money, joining the revamped range of new generation Apples.

Run a PC on your Mac

You can now run Microsoft Windows programs on your Mac at the same speed as they would run on a PC – because you can have a PC inside your Mac! Apple is introducing a card with an Intel 80486 chip on it. You can slot this into your Mac and then run both computers at once.

The Apple DOS Compatibility Card will be available shortly for the PowerMac 6100 – full details were in MACFORMAT 20. Meanwhile, the California-based Reply Corporation is already making £670 cards that fit into a variety of Macs. The company calls its version the DOS On Mac Card. Like its Apple cousin, this uses an 80486 DX2 chip running at 66MHz; this is one of the fastest 486s available. There are currently cards for the Quadra 610, 650, 660AV, 700, 800, 900 and 950, and the Centris 610 and 650. More cards are expected in the not-too-distant future. For more details contact Apple on 0800 127753, or alternatively Reply's UK distributor, Perisol Technology, on 01734 776556.

This PowerMac case contains both the state-of-the-art PowerPC 601 chip and the Intel 486 – that's the one that adds up *correctly*.

CD-ROM marches on

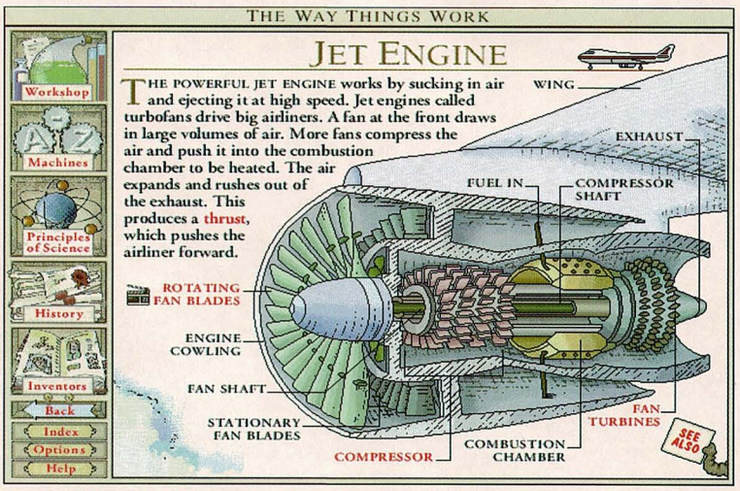
The growing world of CD-ROM entertainment gained momentum at San Francisco with a batch of exciting new releases. Top of the bill was *The Way Things Work*, the first, long-awaited Mac title from education book publisher Dorling Kindersley. Due for release here on Thursday 9 February for £79, *The Way Things Work* helps you dismantle turbines and discover what makes clocks tick – among other things. For more details contact Dorling Kindersley on 0171 753 3488, and watch out for a review in MACFORMAT soon.

The Discovery Channel, a well-established feature of satellite and cable TV, is now taking its documentaries onto CD-ROM. Discovery Multimedia has no British distributor yet, but is releasing *In The Company Of Whales* and *Wings Over Europe* in the United States this Spring, with titles like *Nile: Passage To Egypt* and *Connections* (based on the TV series hosted by James Burke) to follow.

Due out in the summer, *Mummy Trouble* is one of a range of children's CD-ROM games from Strata, better known for its 3D programs. It features the work of Chuck Carter, who played a pivotal role in the creation of beautifully-rendered *Myst*. *Mummy Trouble* takes a more cartoony approach.

And the Living Books company, responsible for MACFORMAT Classic-Award winning titles like *Harry And The Haunted House* and *Ruff's Bone*, announced it would be publishing a series of CD-ROMs based on the books of Dr Seuss – author (poet?) and illustrator of the inspired kid's books *Green Eggs And Ham*, *One Fish Two Fish Red Fish Blue Fish* and, of course, *The Cat In The Hat*. We can't wait...!

I want my Mummy...! In *Mummy Trouble*, you have to save Egypt. But even if you fail, you're still rewarded with tonnes of great-looking cartoon-style animation.


THE WAY THINGS WORK
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THE POWERFUL JET ENGINE works by sucking in air and ejecting it at high speed. Jet engines called turbofans drive big airliners. A fan at the front draws in large volumes of air. More fans compress the air and push it into the combustion chamber to be heated. The air expands and rushes out of the exhaust. This produces a thrust, which pushes the airliner forward.
WING
EXHAUST
FUEL IN
COMPRESSOR SHAFT
ROTATING FAN BLADES
ENGINE COWLING
FAN SHAFT
STATIONARY FAN BLADES
FAN TURBINES
COMPRESSOR
COMBUSTION CHAMBER
SEE ALSO

The Way Things Work takes you inside simple and massively complicated machines to show you how they're built. Here's a turbofan – the thing that keeps Boeings etc in the air (usually).

Mac's super System delayed until 1996

The next major version of the Mac operating system, known as System 8 or Copland, will not arrive until 1996, according to Apple. There should be another upgrade of System 7 while we're waiting.

The delay is because of changes that need to made to the programming code, so that certain new machines, including the forthcoming PowerMac clones and the Common Hardware Platform machines, can use the Mac OS. (For more information on the Common Hardware Platform machines in development by Apple, IBM and Motorola, see MACFORMAT 21.)

Some of the features that were to have been part of Copland will have to be introduced before 1996. OpenDoc, the system that enables mini-programs or components to work together, will need to be part of the Mac OS quite soon; so will software to support PCI, which is the hardware device connection port due on the next generation of PowerMacs.

These and other important system software features are likely to be made available relatively soon with the upgrade for System 7.

FILEMAKER ADDS NEW FEATURES

A new version of Claris' popular *FileMaker Pro* database – version 3.0 – is due later this year, the company announced at Expo. For the first time *FileMaker Pro* will offer full relational capabilities. Unlike a typical database, which stores your information in a similar way to a card index, a relational database enables you to have several people linked to the same address, which you've only entered once. Relational databases are faster and more efficient than card index programs, but tend to be more complex to use. Claris claims *FileMaker Pro 3.0* will be as easy to use as the old one. The price has yet to be set; version 2.1 costs £222. Contact Claris, tel: 0181 756 0101.

The Quadra is back

Apple is reviving the Quadra, its popular business Mac. The Quadra 630 is similar to the existing Performa 630, but its 68040 main processor has a maths co-processor. This useful chip speeds up the Quadra's calculations, making it ideal for complicated tasks like huge spreadsheets or rendering 3D images.

The minimum specification of the Quadra 630 is 4Mb of RAM, a 250Mb hard drive, mouse and keyboard, for around £1,109.

Although it has not been publically stated, the Quadra brand had been abandoned in Britain to encourage business users to switch to the faster PowerMac. More recently, the LC business brand had been more formally merged into the Performa to make the Mac range easier to understand.

Apple UK now seems to have decided there's a significant gap in its range, with even the Performa 630 not proving quite speedy enough for some jobs – while the PowerMac is still building up its range of native software. Apple was unable to say if other new Quadras would follow. For more details contact Apple on 0800 127753.

WHAT'S NEW

Put a Graphics Tablet in your pocket and save trees with landscape generator *Vista Pro*. Plus Richard Hill visits the San Francisco Expo to hunt out some new Mac goodies...

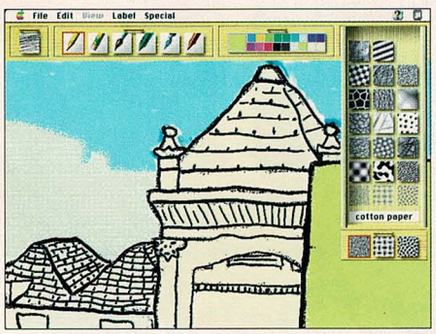
Wacom ArtPad and Dabbler

You only have 20 square inches to play with on the ArtPad, but you should find it's all you need.

Graphics tablets are quickly becoming the 'in' peripheral for 1995. In MACFORMAT 21 we looked at a Handwriter pad that enabled you to use a pen instead of a keyboard and this month we have a graphics tablet with a difference: it's tiny.

The ArtPad has a drawing area of five inches by four; you'll wonder how you can do anything useful with it. But you could be pleasantly surprised: it's pretty reponsive, although you find yourself running off the edge at times. The ArtPad connects up to the the mouse socket, but you can still keep the mouse plugged in – unless you have an AppleDesign keyboard, where the mouse lead goes into the bottom cavity. But you can still use the pad and pen on menus and windows.

The ArtPad comes complete with Fractal Design's *Dabbler*. *Dabbler* is a simple art program that uses the ideas of natural media to give the use of effects like lead pencils and wax crayons. It's not as sophisticated as the more expensive *Painter 3* (reviewed in MACFORMAT 20), but it's a lovely basic sketching tool for putting down ideas. The pen is pressure-sensitive, which makes *Dabbler* even more pleasurable to use.



The combination of the ArtPad and *Dabbler* is ideal for getting quick ideas and sketches onto your Mac.

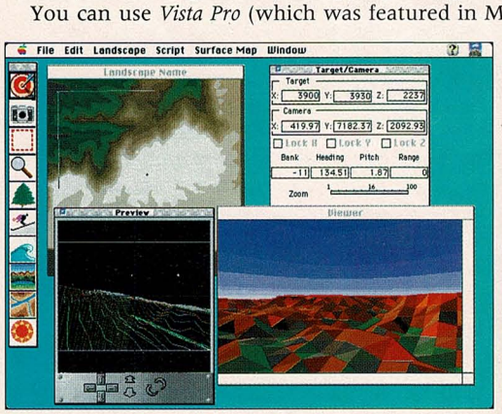
- **Price: £233.85. Out: now.**
- **Requires: ArtPad requires Mac Plus or better, 4Mb of RAM, System 6.0.4 or later. *Dabbler* requires LC or better, at least 4Mb of RAM, System 6.0.5 or later and a 13-inch monitor.**
- **For details contact Letraset on 0171 928 3411.**

Vista Pro 3.0

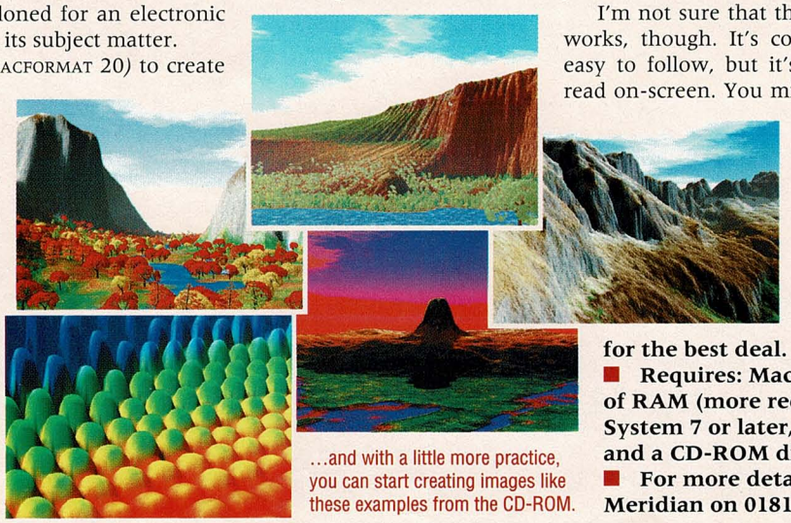
Vista Pro 3.0 has no paper manual: it's been abandoned for an electronic version, thus saving trees. Quite appropriate, given its subject matter.

You can use *Vista Pro* (which was featured in MACFORMAT 20) to create a breathtaking variety of scenes from nature – real or imagined. Make movie fly-throughs of your landscapes, setting a route and leaving your Mac to do all the hard work. The CD-ROM has a lot of extras, including stunning images to give you inspiration and data for recreating views from right across the States, Ayers Rock in Australia, or even Mars.

I'm not sure that the electronic manual works, though. It's concisely written and easy to follow, but it's a bit of a pain to read on-screen. You might even find yourself printing it onto paper – there go those trees. Maybe a recycled paper guide might please everyone!



With the range of tools offered by *Vista Pro*, you can start creating your first landscape in just a few minutes...



...and with a little more practice, you can start creating images like these examples from the CD-ROM.

- **Price: £119.95, but shop around for the best deal. Out: now.**
- **Requires: Mac II or better, 4Mb of RAM (more recommended), System 7 or later, a colour monitor and a CD-ROM drive.**
- **For more details contact Meridian on 0181 543 3500.**

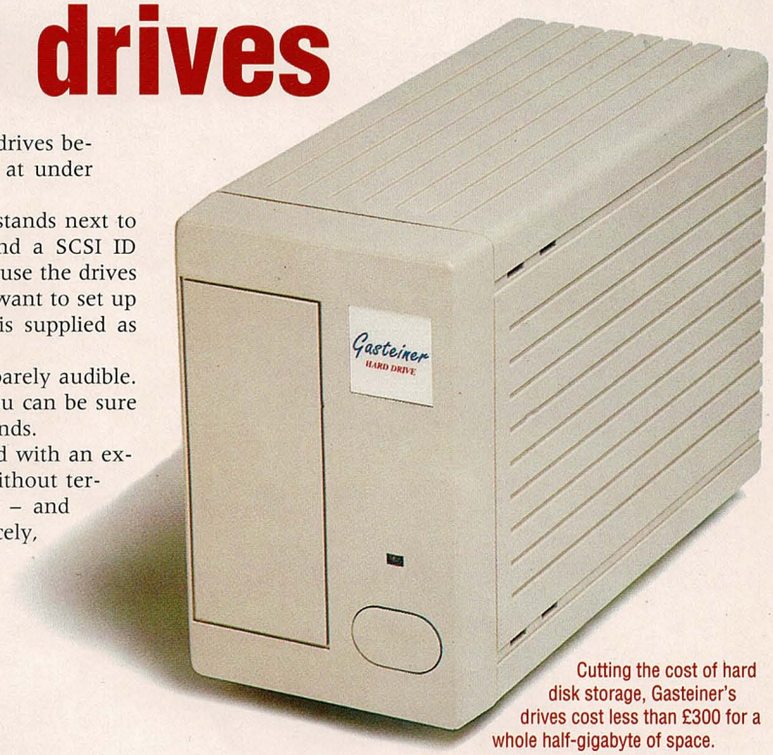
Gasteiner SCSI drives

With hard drive prices dropping all the time, it's good to see really big drives becoming more affordable. Gasteiner's half-gigabyte external drives start at under £280 and the internal version costs just £210.

The external drive is supplied in a smart-looking compact case that stands next to your Macintosh. An easily accessible front-mounted power button and a SCSI ID switch on the back panel makes the drive easy to connect and use. Because the drives are ready formatted, all you have to do is 'plug-in-and-play.' If you do want to set up the drive partitions yourself, MakPeak's *Spot On* formatting software is supplied as standard with each drive.

In operation the drive is very quiet; the fan and the drive itself are barely audible. Because Gasteiner only uses Quantum or Connor units in its drives, you can be sure that they're fast and reliable, with an average access speed of 11milliseconds.

All Gasteiner's external drives have Twin SCSI ports and are supplied with an external SCSI terminator block. Internal units can be supplied, with or without terminators – depending where you are putting it in your SCSI chain – and jumpers enabling you to set the SCSI ID. And if you ask Gasteiner nicely, it'll even set the jumpers for you when it despatches the drive.



Cutting the cost of hard disk storage, Gasteiner's drives cost less than £300 for a whole half-gigabyte of space.

- **Price: half gigabyte external drive, £279.65, half gigabyte internal drive, £210.33, one gigabyte external drive, £561.65, one gigabyte internal drive, £475.88.**
- **Requires: any Mac.**
- **For more details call Gasteiner Technologies on 0181 345 6000.**

NEW FROM SAN FRANCISCO

WorldWrite

One of the more intriguing offerings at Expo San Francisco was *WorldWrite*, a word processor that can change alphabets (and even directions of writing) as easily as fonts. Already on sale in Europe, the Middle East and the Far East, the program can use language typefaces including Arabic, Russian, Chinese and Japanese. *WorldWrite* also has a powerful range of word processing functions, a built-in spreadsheet, and desktop publishing abilities, without appearing to demand too much memory. British distribution is still being arranged, but for more details contact California's World Software on 00 1 415 567 6647.

Zip Drive

The Zip Drive is another addition to the ranks of removable storage options (see MACFORMAT 21), but this is cheaper than most. British prices are yet to be set, but in the United States the drive costs $200 (about £125), and a disk capable of storing 100Mb of information costs $19.95 (£12.50). A 25Mb disk costs just $9.95 (£6.20).

A crude description of how the Zip works is that it uses a disk similar to a floppy disk and a drive similar to a hard drive. The intention is for you to have the speed of a hard drive, but still have the practicality of a floppy disk – which remains the most convenient storage medium when it comes to stuffing it into your jacket pocket or passing it along to a friend. For more details contact Iomega on 0800 898563.

The Zip Drive is another example of how Mac companies are trying harder to give you convenience and value in 1995.

LightningDraw GX

Lightning Draw GX is a new drawing product that takes advantage of QuickDraw GX (hence the GX). It uses QuickDraw GX, the new graphics and type display technology in System 7.5, to create impressive effects simply, with tonnes of options for degrees of transparency and colour blending.

You can use QuickDraw GX's text capabilities to distort text or apply a 3D perspective to it. There's also an impossible-to-explain, but easy-to-use, function, which enables you to distort shapes in different ways depending on how much pressure you put on them with a sliding scale device.

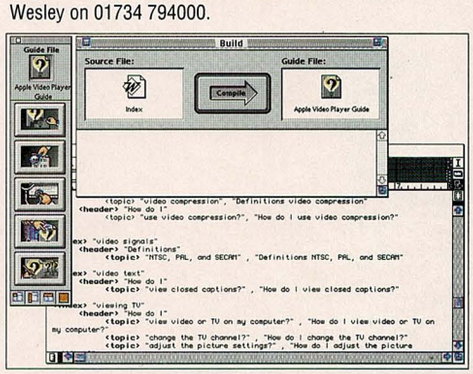
There's no British distributor for *LightningDraw GX* at the moment, but the program is on sale in the States from the end of February, for the launch price of $75. Lightning Draw GX will be sold with a copy of QuickDraw GX. For more details contact Lari Software on 00 1 919 968 0701. Look out for a review in MACFORMAT soon.

Apple Guide Book

Apple Guide is one the more delightful touches of System 7.5. It's an on-line help system that takes you through how to use a program step-by-step. Well, those speech balloons may be cute, but they can only go so far. Now Apple is making it possible for you to make your own Apple Guides.

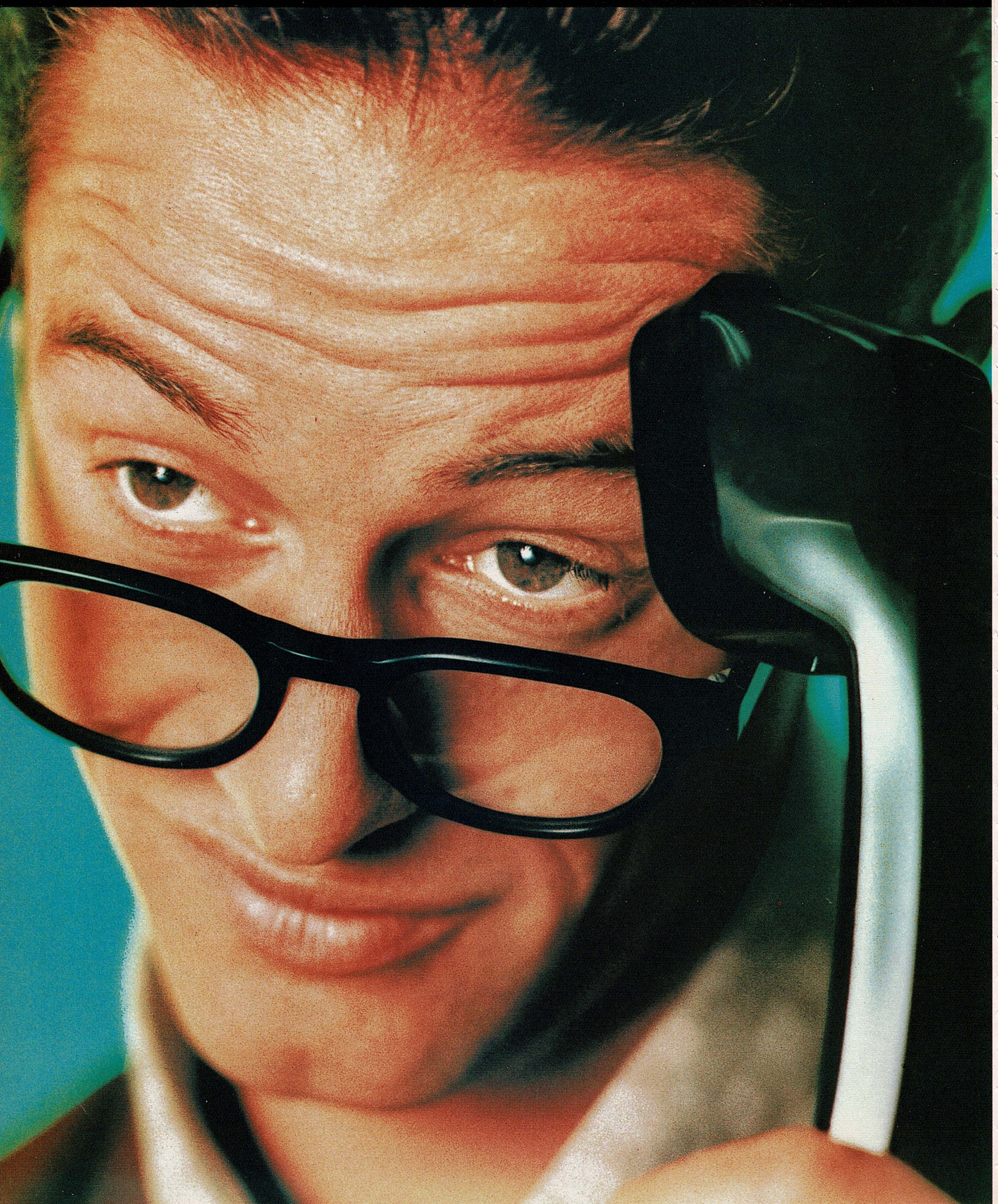
Guide Maker is a program that you can use to create a file that Apple Guide can consult. You can create a text file on a word processor, convert it to a Guide file and test it to make sure it's working. It's sure to prove popular with developers of commercial programs and shareware authors alike.

A CD-ROM of the program and example files will be available with a forthcoming book – *Apple Guide Complete* – written by Apple. It is due to go on sale over here in April, but the book has no price set for it as yet. For more details you can contact Addison-Wesley on 01734 794000.



How *do* they do that? Now you can tell other Mac users how to use programs by creating your own Apple Guides. A book to help is out soon.

You bought a Mac. And then a few more. You tied them together. People started sharing.



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Do I have more than five networked computers? Has printing begun to slow down my Macintosh? Am I sharing more and more files with more and more people? Is that essential information locked up on someone else's Macintosh?

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And using Apple Remote Access software from Apple, even mobile PowerBook™ users can be managed. Apple Remote Access allows users to exploit their network services from anywhere in the world – across any time zone – as if they were on their local network.

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So how easy is an Apple Workgroup Server to use? As easy as a Macintosh. And choosing the right Apple Workgroup Server for your needs is just as easy.

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Apple

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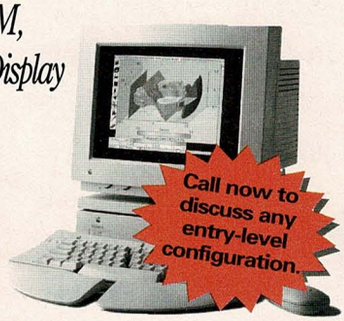

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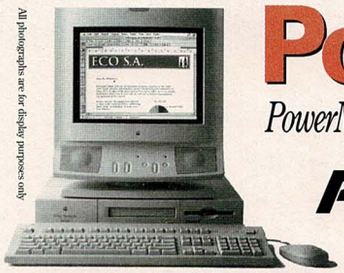
SALE



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MACROSCOPE

Can Atari change the future of Mac games? Will digital cameras become an essential component for the Mac? Plus, how Dixons can boost Mac sales.

The fate of the game

In 1978, Nolan Bushnell created an arcade game called *Pong* that triggered the home console explosion and the birth of the computer games market. His company, Atari, went on to become the leading light in the console market, responsible for the sale of over 20 million home video game systems. Since then Atari has changed hands twice and is now owned by the Tramiel family. So what's this got to do with the Macintosh market?

Back in the 1970s, Bushnell, and then Atari's second owner, Time Warner, were keen to keep their competitive edge. To that end, they patented everything that the Atari engineers invented. Every time they came up with a new concept, they'd call the lawyers over, have them turn the invention into legalese and then go off and invent something else. Incidentally,

Several large companies have created some highly profitable games that do compromise Atari's patents.

Steve Jobs and Steve Wozniak got their first jobs at Atari, working on the design of the early arcade games, before they left to set up Apple. But I digress.

Right up until five years ago, nobody outside of Atari knew that much about those patents. Then, in 1990, the Tramiels instructed their lawyers to start court proceedings against Sega for patent infringements. Nobody really held out a lot of hope for Atari at that time, because it was a relatively small player in both the console and the computer markets. The consensus at the time was that Sega would soundly beat Atari in court and it would end there.

In 1994, Sega settled out of court with Atari to the tune of $50 million cash, with an extra $40 million invested in Atari stock. As a direct result of this, Atari's share price doubled overnight. Sega and Atari then entered into a cross-licensing deal, meaning that Atari can release Sega games on Atari's Jaguar console. In other words they've partially broken the monopoly that the console companies have over particular games.

Atari has said that its intention is to commence court proceedings against anyone who infringes its patents and can also afford to pay. Now while Apple doesn't have much to worry about, there are a few software companies who should start watching their backs. The reason is that the Atari patents cover both hardware and software. One particular patent that many games developers could fall foul of concerns sprites that move off the left of the screen and reappear on the right – scrolling backdrops, in other words. This doesn't mean that every game with a scrolling backdrop infringes Atari's patent, because the wording in that document is quite specific. However, I've been reliably informed that several large companies have created some highly profitable games that do compromise Atari's patents. As Sam Tramiel, the President of Atari Corporation, recently put it:

'We will maximise their [the patents'] value and will pursue whatever means are necessary to ensure that they are not being infringed upon. We have some very good precedents and we look forward to more favourable outcomes.'

Atari has let it be known that it will offer the same sort of deal that Sega got to anyone who infringes its patents. But it's not just the control that Atari has over the marketplace that's interesting about this case. Whether through design or by accident, Atari has shaken up the whole notion of proprietary games, with the result that the console companies have started re-examining their entire attitude to competition and profit. During the latter half of this decade it's likely that games will receive cross-platform releases, rather than being restricted to one console or computer only. All of which is very good news for the Mac market, where games releases are still relatively few and far between.

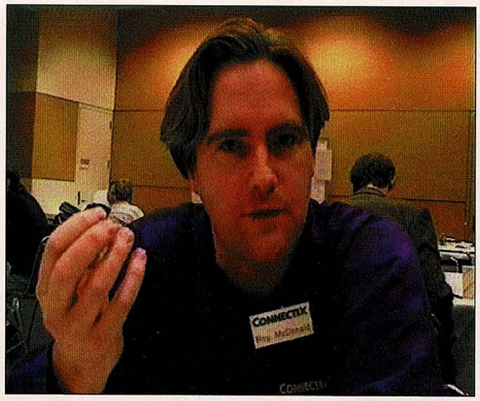
On a slightly different tack, Atari has also disclosed that it will be re-entering the publishing market. This means that some of the best arcade games ever devised will be converted for use on other platforms. Thanks to the foresight of Bushnell and Time Warner, the Mac games market could look a lot healthier than it has at any time in the past. Even if Apple sells its computers as productivity products, it's the games market that can really boost the sales of a machine – just one of the reasons why the PC market remains the dominant format. More games on the Mac means more sales of Macs, which means more support from more software companies. All of which is good news for Apple and good news for us.

Andy Hutchinson

Sam Tramiel, the president of the Atari Corporation (centre), is bound to profit from a coup that is set to change the face of the games on the Mac and other platforms.

MACFORMAT spoke to Roy McDonald of Connectix at the *Macworld* Expo in San Francisco.

We filmed Roy with a camcorder and grabbed these images using a Mac fitted with an expensive graphics board.



A colour digital camera would remove the need for this complex procedure – and one is coming soon.

Video revolution

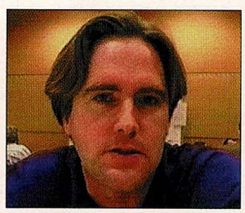
Everyone will have a video camera to attach to their Mac in a few years' time, according to Roy McDonald of Connectix. Desktop video editing facilities are already available for the home user (see the cover feature in MACFORMAT 21) and camera prices are plummeting. Connectix has just launched the QuickCam, a tiny black-and-white video camera that hooks up straight to your Mac and costs only £164.66.

'We believe that by 1997 or 1998, people will be able to produce things like the QuickCam for under $20,' says Roy McDonald. 'These things will be so cheap that people who build computers won't be able to afford not to give them away with their computers. So sometime toward the latter part of this decade, you are going to find digital video cameras that aren't too different from QuickCams being an essential component of a computer, just like a mouse is now.'

The QuickCam takes advantage of Apple's *QuickTime* video software technology, which takes video saved on CD-ROM or your Mac's hard disk and plays it on the screen. Despite the power of *QuickTime*, most of us see it as something that enables us to watch pre-made video from a game or encyclopedia, rather than something that we can use directly to make our own. McDonald says: 'The reason why people don't take advantage of that processing power is because there isn't any convenient input device to get images into your computer. Think about what you have to do if you want to get a movie onto a Macintosh. You've got to buy a camcorder, a $400 digitising board, and a bunch of software – maybe it isn't going to work right the first time. It's just... too hard.

'We came to the conclusion that if we could come up with an inexpensive input device for imagery, it would be a big advance on how people use personal computers – it would give people the ability to begin using *QuickTime*.'

The idea of the QuickCam is a marked departure from the traditional way of getting video onto your Mac, as McDonald explains. 'It was kind of a hypothetical question – we said, "Well, it costs a thousand dollars to make a *QuickTime* movie. Is there some way of doing it better than that?" What we noticed when we looked at the current solution was that everyone started with a camcorder – and what comes out is an analogue signal, whether it's NTSC or PAL [the American and British video formats]. So now you have to get a digitiser board and convert it back into a digital form. The irony is, the signal that came off of that camcorder was a CCD signal. [A CCD, which stands for Charge Couple Device, basically takes light and converts it into digits a computer can understand.] So three quarters of the cost is in going from digital to analogue in the camera, and then back to digital in the computer.'



Roy McDonald:
'Sometime toward the latter half of this decade, you're going to find digital video cameras not too different from QuickCams being an essential component of the computer, just like a mouse is.'

But now there's a camera designed specifically for the computer. It's clear that McDonald sees a big future for this new device – he reckons there'll be a million out there in about three years' time. Connectix is itself planning a colour version for later this year, as well as a special version for AV Macs. Other companies are bound to join in, and perhaps out-sell Connectix, as the cost of making the cameras drops.

So when these devices become ubiquitous, how will they affect the way you use your Mac? McDonald says his company's working on some interesting ideas, based on the feedback it's getting from interested potential users. 'All of a sudden you start thinking about using pictures in everything you do. When I send a fax – maybe to some distributor in Israel I've never met – my picture is going to be there. This year for Christmas we didn't mail out Christmas cards – we made a 30-second video that gave everyone in the company a chance to say "Merry Christmas", put it on a floppy disk and mailed it out to all our clients and friends.

'Imagine a floppy that's your business card. It could have a picture of you, your résumé, your contact address so that the person who gets it could put it into their database without having to type it in.

'We will, of course, do video-conferencing [communicating with others by phone, only they can see you as well]. Another one that's turned out to be as much in demand today as conferencing, to our surprise, is security. Security cameras are relatively expensive. The nice thing about a video camera connected to a computer is that you can control a lot. So for example you can say, "I want this thing to be a motion detector." ' Alternatively, you could find yourself accepting a security pass at a company's reception desk moments after someone has filmed you on a camera connected to a Mac and instantly printed out a pass card with your photo on it.

Although Connectix seems to be kick-starting the new home video boom, McDonald is keeping his eyes set on the long-term bigger picture. 'Our real interest is in producing software for digital video users – that's going to be an important market as we go towards the end of the decade.'

Richard Hill

The hard sell

Dear Mr Dixon, I've noticed for a couple of years now that you've had a number of Macintoshes in your store in my local high street. I've also noticed that you don't seem to be shifting many of them, and I wondered if I could give you a bit of friendly advice. (I'm also sending this letter to Mr Comet, Mr Argos and all the other electronics stores who sell Macs, because you're all pretty much doing the same thing.)

First, can I say a word about *At Ease*. I know it's kidproof and therefore stops anyone tinkering with the Mac, and I know that kids love to play with computers in stores and bugger them up. Indeed, I recall going into Smiths many years ago and typing

```
10 PRINT 'YOU'RE CRAP'
20 GOTO 10
```

into many an unsuspecting Oric. But look at the cost/benefit analysis here. *At Ease* takes away all the Maccishness of the Macintosh. It reduces its functionality to zero and gives totally the wrong impression of what it's like to use a Mac. Since nine-tenths of the appeal of the Mac is what a joy it is to use, installing *At Ease* at one stroke removes the best sales point for the machine. Macs, left to their own devices, will sell themselves; Macs with *At Ease* make good doorstops.

Trying to sell Macs while only showing a demo of *At Ease* is like a garage displaying a car with no windscreen or dashboard, and not letting you test drive it. Daft.

(I guess it would be useful if Apple took the time to write a little program that totally blocked off access to the System Folder and stopped files being deleted, with a password to protect it, but left the interface intact. It would probably take one of their engineers an afternoon and a pizza to write and would instantly increase British Mac sales substantially. Hey, they could even do what they did with System 7.5 and... er, 'borrow' ideas from what's already available. With System 7.5, what they've done is bolt on a handful of functions previously available via shareware utilities; for a new interface they'd do well to take note of programs like *Kid Desk* and *Launch Pad*, reviewed this issue. Or – here's a radical idea – how about bundling one of those programs with the Macs...?)

Trying to sell a Mac while only showing a demo of At Ease is like a garage displaying a car with no windscreen or dashboard. Daft.

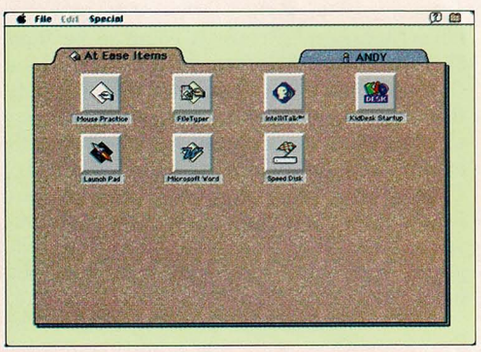
The other area where you hamper Mac sales is software. My local store sells not one floppy of Mac software, but has a wall full of PC stuff. I know PC stuff sells more, but just imagine being a potential computer buyer in Dixons. You like the idea of these Macintosh things because your mate has told you that they are dead simple to use (although the one in the shop doesn't seem to do a great deal). So you decide to browse the shelves to see what software you can get for it. You find PC word processors, PC spreadsheets, PC educational software, PC games, PC databases, PC weird CD-ROMs – but not a thing for the Mac. Now, are you going to stick to your mate's advice and go with this strangely crippled-looking Macintosh with no software, or go for the Windows PC that can run all those great programs? No contest really, is it?

Now you might say that if you read magazines like MACFORMAT you could find out about all the great stuff that's available for the Mac, but the average Dixons buyer doesn't – if they did, chances are they wouldn't be buying from Dixons in the first place.

So, not to put too fine a point on it, you are spoiling the ship for a ha'p'orth of tar – a few software packages, and a way of displaying Macs that uses the real Finder would have your sales rocketing, I guarantee it.

I look forward to receiving a percentage of your increased profits.

Yours sincerely,
Josef Morell
PS, Love to Mrs Dixon.



At Ease is a handy program if you want a bit of security. It also takes away the ease-of-use that the Mac's famous for.

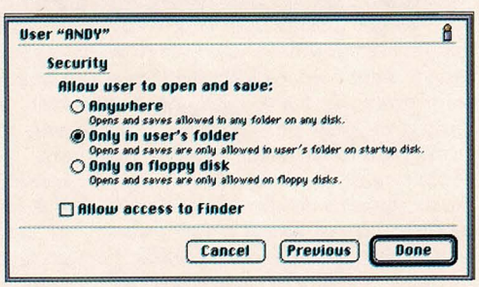
For a review of *At Ease*, see page 72

ANOTHER PIPPIN GAMES MACHINE

As I write this on the beach in Cannes, sipping a Grand Bleu and waiting for my langoustines to arrive, I've been musing on the new multimedia games console, the Pippin (see the news story on page 17). I'm in Cannes for Milia, the multimedia equivalent of the Cannes film festival, and the Pippin is the show's equivalent of a buxom starlet, sunbathing topless. A PowerPC 603, 6Mb of RAM, a quadruple speed CD-ROM drive, Mac OS compatibility and an ADB port for an optional keyboard has the multimedia developers here, most of whom use Macs, drooling. With a rumoured price in the £400 band, CDi and 3DO developers were looking particularly concerned.

I've always been deeply sceptical about the project, but with the backing of Bandai and a tech spec to dream of, this Pippin thing might fly. It's more powerful than any currently shipping Mac, for God's sake.

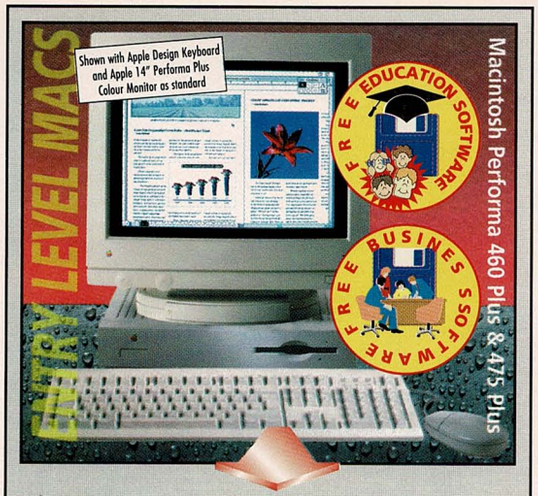
At Macworld Expo, hawkers outside were selling T-shirts with the logo, 'Macintosh – the power to crush the other kids'. With Pippin, that may soon be the best selling shirt around.


User "ANDY"
Security
Allow user to open and save:
Anywhere
Opens and saves allowed in any folder on any disk.
Only in user's folder
Opens and saves are only allowed in user's folder on startup disk.
Only on floppy disk
Opens and saves are only allowed on floppy disks.
Allow access to Finder
Cancel
Previous
Done

At Ease enables you to stop other people trashing your Finder, but it isn't the best way of displaying a Mac's potential.

Authorised Reseller

GH brings you FREE SOFTWARE ON SOME GREAT NEW 1995 BUNDLES ...at Super Low GH Prices


ENTRY LEVEL MACS
Macintosh Performa 460 Plus & 475 Plus
Shown with Apple Design Keyboard and Apple 14" Performa Plus Colour Monitor as standard
FREE EDUCATION SOFTWARE
FREE BUSINESS SOFTWARE

MACINTOSH PERFORMA... 460 Plus HOME EDUCATION BUNDLE

With a 33MHz 68030 CPU, 4Mb RAM and a 160Mb Hard Disk Drive, GH's entry level Mac Bundle is ideal for business, home OR education. Apple 14" Performa Plus Colour Monitor & Apple Design Keyboard are also included along with a selection of great home education software!

Macintosh Performa 460 Plus - 4/160

Only... THE GH CHRISTMAS EDUCATION EXTRAVAGANZA

£766 (£899 Inc. VAT)

INCLUDES THE GH EDUCATIONAL BUNDLE - System 7.1P, PC Exchange, At Ease, Claris Works 2.1, Tutorials, Mavis Beacon Teaches Typing, Spectre Supreme (Game), Click Art Performa, MacGallery Clip Art Treasure Pack PLUS... BAILEY'S BOOKHOUSE, MILLIE'S MATHHOUSE and THINKIN' THINGS!

Worth almost £500 when purchased individually!

MACINTOSH PERFORMA... 475 Plus HOME OFFICE PUBLISHING BUNDLE

Quadra performance using a FAST 25MHz 68040 CPU - This Mac will dash through your workload QUICKLY!. Apple 14" Performa Plus Colour Monitor & Apple Design Keyboard are also included along with some fantastic business software pre-loaded onto the Hard Drive!

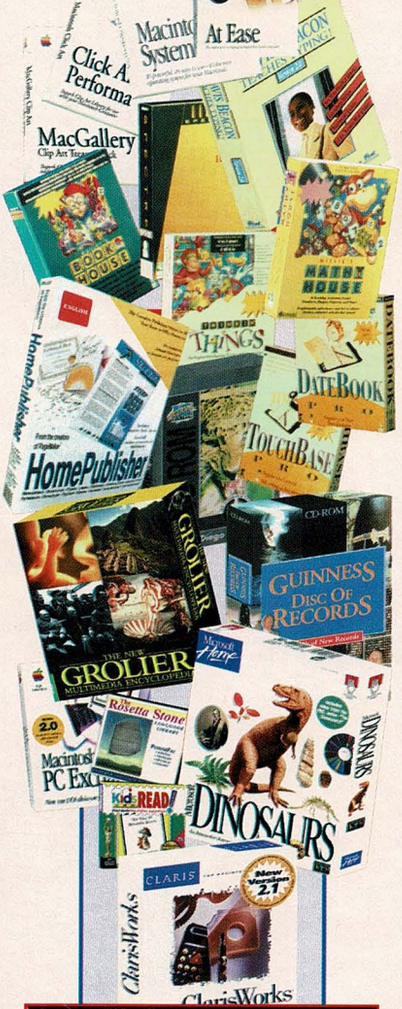
Macintosh Performa 475 Plus - 4/250

Only... THE GH BUMPER BUSINESS BONANZA!

£849 (£999 Inc. VAT)

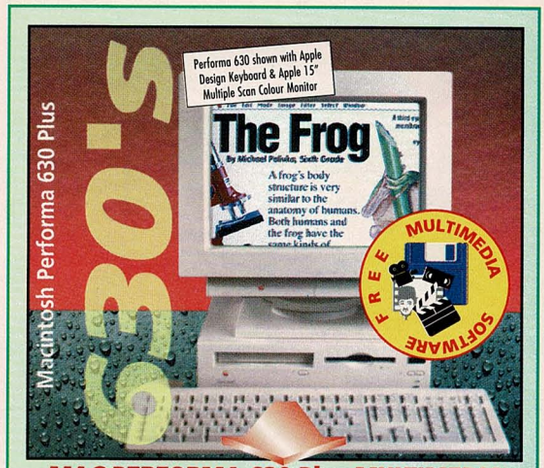
INCLUDES THE GH HOME OFFICE BUNDLE - System 7.5P, PC Exchange, At Ease, Claris Works 2.1, Tutorials, Mavis Beacon Teaches Typing, Spectre Supreme (Game), Click Art Performa, MacGallery Clip Art Treasure Pack PLUS... HOME PUBLISHER (DTP), TOUCHBASE and DATEBOOK!

Worth over £500 when purchased individually!



YOU MAY BE ABLE TO PURCHASE YOUR GH CHRISTMAS BUNDLE PACKS WITH A DIFFERENT MONITOR, KEYBOARD OR MEMORY CONFIGURATION... Phone Us Now!

Software titles shown are fully packaged versions. With GH, Free Software Bundles are not packaged but are installed on the Computers' Hard Drive and ready to use. CD Disks are provided unpackaged as appropriate. Software RRPs are based on fully packaged versions as if purchased separately. Software displayed above is for illustrative purposes only.


Performa 630 shown with Apple Design Keyboard & Apple 15" Multiple Scan Colour Monitor
Macintosh Performa 630 Plus
630's
The Frog
FREE MULTIMEDIA SOFTWARE

MAC PERFORMA 630 Plus MULTIMEDIA

A choice of two Multimedia Macs that boast 66/33MHz 68LC040 CPU's. With the built in 'Video in TV Tuner' you can input from VCR's etc. and cut & paste between the two, plus... watch TV on your Mac screen too! Standard 16 Bit Stereo Sound technology is incorporated and the pack comes with an Apple 15" Multiple Scan Display and Apple Design Keyboard along with a Mammoth range of some of the best Multimedia CD Software available!!!

Performa 630 Plus - 8/250 CD
Superb Multimedia Starter
£1275 (£1498 Inc. VAT)

Performa 630 Plus - 8/350 CD
with Built in 'Video In TV'
£1445 (£1698 Inc. VAT)

INCLUDES THE GH MULTIMEDIA BUNDLE - System 7.5P, PC Exchange, At Ease, Claris Works 2.1, Tutorials, Mavis Beacon Teaches Typing, Spectre Supreme (Game), Click Art Performa, MacGallery Clip Art Treasure Pack PLUS... GROLIER MULTIMEDIA ENCYCLOPAEDIA, 1994 GUINNESS DISK OF RECORDS, MICROSOFT DINOSAURS, ROSETTA STONE POWER PACK, THE SAN DIEGO ZOO PRESENTS THE ANIMALS, BEATRIX POTTER'S THE TALE OF BENJAMIN BUNNY and LEONARDO THE INVENTOR ...on CD ROM!!!

Worth over £700 when purchased individually!

All listed prices are what YOU PAY, and there are NO HIDDEN EXTRAS. Prices are correct at time of going to press (Pack details may vary from time to time). Offers and Services are subject to availability.

"...at GH, we'll look after you..."

SERVICE, SUPPORT and WARRANTIES: GH is one of Apple UK's selected Authorised Service Providers, not all Resellers have this accreditation. Our standard One Year GH Gold Warranty gives you complete peace of mind, with enhanced/extended options available.

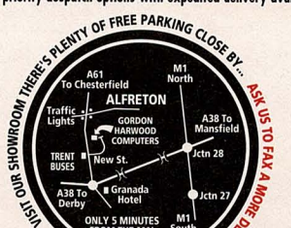
BY PHONE: We'll help with any queries and when you're ready to order we accept Visa, Mastercard, Access, Switch, Connect, Delta and Lombard Creditcharge (most 'store cards' are Lombard Creditcharge and we happily accept them).

BY POST or FAX: When ordering include your name, address and preferably a contact phone number with your order requirements. If charging a credit/debit card include its number and expiry date (and issue number with Switch cards).

PRICES: Please remember to confirm prices in case you are looking at an 'old' magazine. Prices can change (up or down) before the magazine's cover month has passed. Please confirm before sending orders by post.

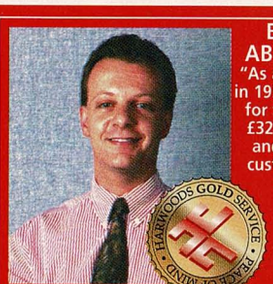
EXPORT: Most items are available at TAX FREE PRICES to non EC residents & overseas UK Armed Forces Personnel (with CO's document). Please call us for confirmation of prices and carriage charges.

FREE UK DELIVERY: We despatch promptly & offer FREE delivery of all orders throughout Mainland UK. If your order is urgent we have priority despatch options with expedited delivery available.



We're Open...
Mon-Sat 9am til 5pm
Wed 9am til 1pm

"Why not visit our Apple Showrooms where most models are on display?"



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Giles Harwood - Managing Director

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or... **FAX US FOR A 'QUICK-QUOTE' 01-773-831040**

Finance and Leasing Facilities are available for both personal and business customers (subject to status, please ask for written details)

gordon harwood computers limited

the UK's favourite Apple reseller!

GORDON HARWOOD COMPUTERS LIMITED
(Department mf /R6)
NEW STREET ALFRETON
DERBYSHIRE DE55 7BP
Telephone: 01-773-836781
Facsimile: 01-773-831040

"Why not FAX our Sales Team for a Quick-Quote!"

"Call us, we'll Guarantee the BEST Mac Deal with the BEST Mac After Sales Service"

SEE OUR... SPECIAL 'BUNDLE' SINGLE PAGE ADVERT WITH SOME SPECIAL PACKS INCLUDING SOFTWARE AT... FANTASTIC PRICES
SEE MAC FORMAT & THE MAC FOR MORE DETAILS OF THESE GH BUNDLES!

Gordon Harwood is the only Apple Authorised Reseller to give *YOU* all the choices, with our new... PRICE BUSTING MACPACS!

Just 'MIX 'n' MAC' it's A B Ceasy!

"With A Multi Million Pound Turnover we buy HUGE...to give YOU MONSTER SAVINGS! Remember with a GH MacPac YOU get to CHOOSE just what you pay, by getting just what you want, in your own... BARGAIN BUNDLE!

Step 'A' Pick the CPU that's just right for your needs. If you need help, just call!

Step 'B' Choose a Monitor with the display area to fit your work size, and also your pocket.

Step 'C' Select your keyboard, safe in the knowledge that it's a genuine Apple one!

E&OE.

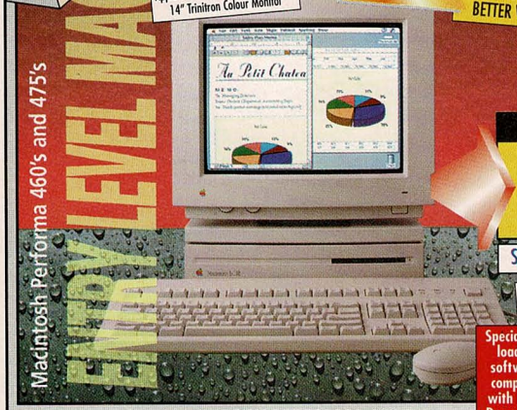
ENTRY LEVEL MACS

Macintosh Performa 460's and 475's

New Product

NEW ENTRY LEVEL PERFORMA PRICES FROM GH - EVEN BETTER VALUE!!!

Performa 475 shown with optional Apple Extended Keyboard & Apple 14" Trinitron Colour Monitor



Special pre loaded software complete with Intro Documents

Performa 460 CPU - 4/160
Only... THE IDEAL STARTER MAC £499 (£587 Inc. VAT)
See our MacPac Monitors, Keyboards & Extras

LOOK HERE! WE'VE GOT MACS AT UNDER £500!!!

Performa 460 4/160 £499 with Claris Works 2.1 FREE! (£587)

NEW **Performa 475 4/250 £589** with Claris Works 2.1 FREE! (£693)

NEW **Performa 475 8/250 £699** with Claris Works 2.1 FREE! (£822)

FREE FROM GH... Claris Works software suite with all GH Performa 460/475 CPU's *(see full details in chart on the right)*

PLUS... Every GH Performa 460/475 is now supplied with System Software, PC Exchange, At Ease and Informational Tutorials

These are CPU prices -don't forget your keyboard & monitor

MACINTOSH PERFORMA 460
GH entry level Macs for business, home or education. With 33MHz 68030 CPU's, 4Mb RAM and 160Mb Hard Disk Drives. You can then choose a colour monitor up to 17" as you require plus the keyboard you prefer. Perfect Starter!

MACINTOSH PERFORMA 475
Quadra performance with FAST 25MHz 68040 CPU's. These Macs will dash through your workload QUICKLY! You can use monitors up to 20" for LARGER work areas.

630's

Macintosh LC 630 & Performa 630

LC 630 shown with optional Apple Design Keyboard & Apple 15" Multiple Scan Colour Monitor

The Frog
By Michael Polivka, Sixth Grade
A frog's body structure is very similar to the anatomy of humans. Both humans and the frog have the

▲ NEW LC and Performa 630 full 68040 Replacement CPU with FPU Only... £295 (£347)

Every GH Performa 630 is now supplied with PC Exchange, At Ease &Informational Tutorials

MACINTOSH LC & PERFORMA 630's
Ideal Multi Media Macs that boast 66/33MHz 68LC040 CPU's. With the 'Video in TV (tuner)' model, you can input from VCR's and cut & paste between the two, plus... see TV on your Mac screen! A further option to output to VCR or Large TV's is also available. Standard 16 Bit Stereo Sound technology

Performa 630 - 4/250
Only... MULTIMEDIA MAGIC! £749 (£880 Inc. VAT)
See our MacPac Monitors, Keyboards & Extras

Performa 630 4/250 £749 with Claris Works 2.1 FREE! (£880)

Performa 630 8/250CD £969 with Claris Works 2.1 FREE! (£1139)

Performa 630 8/350CD £1149 with Claris Works 2.1 FREE! Inc. NEW 'Video in TV' facility! (£1350)

Macintosh LC 630 8/250 £633 NEW LOW PRICE Whilst Stocks Last (£744)

Macintosh LC 630 8/350CD £739 NEW LOW PRICE Whilst Stocks Last (£869)

NEW **Quadra 630 4/250 £816** (68040+FPU inc. New System 7.5) (£959)

These are CPU prices -don't forget your keyboard & monitor

Special pre loaded software complete with Intro Documents

FREE FROM GORDON HARWOOD... Claris Works 2.1 software with all Performa 630 CPU's. A suite of applications including Word Processor, Database, Spreadsheet, Draw, COMMS and Graphing!

EVEN GREATER LC & PERFORMA 630 SAVINGS WITH THESE GH PRE-CONFIGURED BUNDLES...
Packs inc. a NEW Apple 15" Multiple Scan Monitor & Design Keyboard - Performa 630's also inc.Claris Works 2.1!

Performa 630 4/250 CPU	Performa 630 8/250 CD CPU	Performa 630 8/350 TVCD CPU
inc. 15" Monitor & Design Keyboard	inc. 15" Monitor & Design Keyboard	inc. 15" Monitor & Design Keyboard
SCOOP PRICE... £1079 (£1268 Inc. VAT)	SCOOP PRICE... £1249 (£1468 Inc. VAT)	SCOOP PRICE... £1425 (£1675 Inc. VAT)

SUPER LOW PRICE Whilst Stocks Last! LC 630 8/250 inc. 15" Monitor & Design KB £999 (£1174 Inc. VAT)

SUPER LOW PRICE Whilst Stocks Last! LC 630 8/350 CD inc. 15" Monitor & Design KB £1099 (£1292 Inc. VAT)

PowerPC

Power Macintosh - 6100/60, 7100/66, 8100/80

PowerMac 6100/60 shown with optional Apple Extended Keyboard and Apple 14" Colour Audio Vision Monitor

SAVE UP TO... £200 WHEN YOU PURCHASE A SELECTED MONITOR WITH ANY POWER MAC (see monitor chart below and phone for details of these even greater savings)

▲ NEW PowerMac AV Display Card inc. 2Mb VRAM Only... £374 (£440)

THE POWER MACINTOSH RANGE
Call us for a GREAT DEAL on everything from the 6100 PowerMac to the ULTIMATE NEW 8100/110 MHz unit!

AT THE BEST PRICES AROUND!

NEW MODELS AND EVEN LOWER GH PRICES ARE HERE FOR 1995... Take Advantage NOW!!!

PowerMac 6100 - 8/250
LOW COST POWER AT GH
FROM ONLY... £1199 (£1409 Inc. VAT)
See our MacPac Keyboards, Monitors, & Extra!!!s

6100/66	8/350	£1199 (£1409)
6100/66	8/350CD	£1349 (£1586)
7100/66DL	8/350	£1449 (£1703)
7100/80	8/700	£1849 (£2173)
7100/80	8/700CD	£2178 (£2560)
7100/80	16/700AVCD	£2293 (£2695)
8100/100	8/700	£2549 (£2996)
8100/100	16/700CD	£2935 (£3449)
8100/100	16/1000AVCD	£3190 (£3749)
8100/110	16/2000CD	£4049 (£4758)

These are CPU prices -don't forget your keyboard & monitor

"Hey, if you're used to using PC's, you can even run Microsoft Windows on your Power Mac too! SoftWindows upgrade kits are available now... from as little as £119! Run your favourite PC programs right from your Macintosh! Please ask us for details of what you need."

COLOUR MONITORS

Apple Colour Monitors
Genuine Apple Monitors from only... £155 (£183 Inc. VAT)

MONITOR PRICES	Bought with CPU		Purchased Alone	
14" Performa Plus (.28)	£155	(£183)	£189	(£223)
14" Trinitron (.26)	£249	(£293)	£265	(£312)
14" Audio Vision (.26)	£330	(£388)	£344	(£405)
15" Multiple Scan (.28)	£289	(£340)	£305	(£359)
17" Multiple Scan (.25)	£699	(£822)	£739	(£869)
20" Multiple Scan (.26)	£1459	(£1715)	£1499	(£1762)

Just pick a monitor that connects to your CPU. You may be able to add more Video RAM (VRAM) to increase maximum colours displayed.
LC III/Performa 450 - Performa 475 - Performa 630 - PowerMac 6100 - 7100 - 8100
17" 20" 17" 17" 20" 20"

"Don't forget when you buy a monitor WITH your Mac CPU... GH give you a generous reduction on the price of your chosen monitor!" (see chart left)

KEYBOARDS

Design £79 (£93)
Extended £139 (£165)
Adjustable £165 (£194)

New Product

UPGRADES FOR YOUR MAC

256K RAM CACHE For PowerMacs £159 (£187 Inc. VAT)
4Mb SIMMS £110 (£130 Inc. VAT)
8Mb SIMMS £219 (£258 Inc. VAT)
16Mb SIMMS £359 (£422 Inc. VAT) New Product

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"Confirm you're getting the BEST DEAL - call those friendly people at the UK's FAVOURITE DEALER!"

Authorised Reseller

Authorised Service Provider

"Got a technical problem?" "Need an Upgrade?" "Want a new peripheral fitting?" LOOK NO FURTHER... Our Apple Approved Engineers can do the job -YOU'RE GUARANTEED THAT! -

GH MACPAC EXTRAS...

"We've selected some of our **Best Sellers** and held the prices **LOW**! Of course you can add ANY of our products to your MACPAC but look at these **MACPAC EXTRAS** first!"

"Don't be shocked but you can buy ANY MacPac Extra item separately as well. Still at these delightful GH LOW PRICES!

EPSON STYLUS 800
720 dpi COLOUR INKJET

GH have secured stocks of this exciting revolutionary NEW HIGH QUALITY INKJET PRINTER! Boasting an incredible 720dpi resolution max. output, the Stylus 800 is unique! Take a look at recent magazine reviews to the glowing reports for this printer! If you need the ultimate low cost inkjet proofing device - This is the one for you!

(Apple printer driver software is due for release very soon)!

Epson Stylus Colour

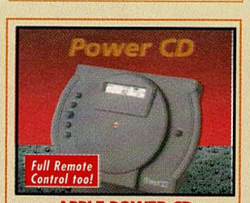
Excellent and Truly Unique Budget Inkjet 720dpi Printer

ONLY... **£385** (£453 Inc. VAT)

INCLUDES SHEET FEEDER

APPLE COLOUR STYLEWRITER PRO PRINTER
Fantastic Colour Print, ideal for proofs etc. 360dpi
£399 (£469 Inc. VAT)

NEW APPLE STYLEWRITER 2400 COLOUR PRINTER
Excellent Colour Print, ideal for proofs etc. 360dpi
£379 (£446 Inc. VAT)

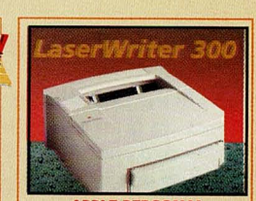


APPLE POWER CD
Plays CD ROM's, Photo CD's and Audio CD's! Even display Photo CD on your TV!

Power CD Player WHILST STOCKS LAST!

Only a Few Left now at this VERY Special Low Price

Price Crash! **£125** (£147 Inc. VAT)



APPLE PERSONAL LASERWRITER 300
Genuine 300dpi Apple Laser Printer

LaserWriter 300

Apple Quality Laser Printing at a Remarkably Low Price

£445 (£523 Inc. VAT)

APPLE CD 300E PLUS
NEW Caddyless CD with double speed and multi session plus PhotoCD!

CD 300E CD Player

Open up your world to the CD revolution now!

JUST... **£189** (£223 Inc. VAT)

APPLE STYLEWRITER II
Mono 360dpi Inkjet Printer for budget priced laser like quality output

StyleWriter II

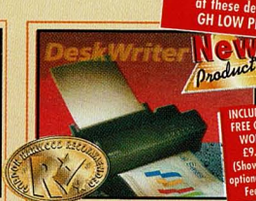
Apple Quality at a Budget Price for Super Mono Printing

ONLY... **£199** (£234 Inc. VAT)

INCLUDES SHEET FEEDER

APPLE HARD DISK DRIVES
NEW External Hard Drives styled to match your Mac. Simply plug in and use!

270Mb.	£249 (£293)
342Mb.	£267 (£314)
500Mb.	£306 (£360)
1000Mb.	£586 (£689)



NEW... HP DESKWRITER 320 INKJET PRINTER
Great 600 x 300dpi Budget Mono (Colour kit available)

HP DeskWriter 320

GH Best Budget Buy Inkjet Printer - Recommended!

£189 (£223 Inc. VAT) OR WITH OPTIONAL SHEET FEEDER Only £209 (£246 Inc. VAT)

SUPRA 144LC FAX MODEM
Send and Receive Faxes at up to 14400bps directly with your Mac! INCLUDES FAX SOFTWARE!
Fax for just **£119** (£140)

NEW LOWER PRICE! **US ROBOTICS SPORSTER**
External, 14400bps, BABT Approved, inc. FREE Software
Fax for just **£145** (£170)

SUPRA 288 FAX MODEM
External, 28800bps, Not BABT Approved, inc. FREE Software
Fax for just **£209** (£246)

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"As a family business established in 1955, we've supplied computers for the past 12 years. With over £32 million worth of units sold, and more than 215,000 happy customers, our trading record is second to none! Why don't you try us for your next Apple and find out why we are the UK's Favourite Apple Reseller?"

Giles Harwood - Managing Director

HARWOODS GOLD SERVICE · PEACE OF MIND ·

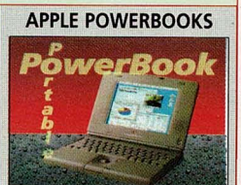
DIAL -A- DEAL **01-773-836781 or** **FAX US FOR A 'QUICK-QUOTE' ON... 01-773-831040**

SICOS 24-BIT, up to1200dpi, DESKTOP COLOUR SCANNER

- Multiple Resolutions up to 1200dpi
- Small Footprint
- Sheet Fed
- 24-Bit, 16.7 million Colours
- 256 Greyscales, Line Art & Halftone
- Complete with... COLORSTATION Image Software, EASY READER OCR Software, Dust Cover, SCSI to Mac Cable & Terminator, Manuals etc.

SICOS SCANNER
ONLY.. **£399** AMAZING VALUE!!! (£469)

APPLE POWERBOOKS



'For the Mac on the move' Real Portable Power!

PowerBook 150 with Claris Works 2.1	4/120	£965 (£1134)
PowerBook 520 + Mobility Bundle	4/160	£1499 (£1762)
PowerBook 520c + Mobility Bundle -Whilst Stocks Last-	4/160	£1899 (£2232)
PowerBook 540 +Mobility -Whilst Stocks Last-	4/240	£2065 (£2427)
PowerBook 540 + Mobility Bundle Last Few +Modem	12/240	£2499 (£2937)
PowerBook 540c + Mobility Bundle	4/320	£3049 (£3583)
PowerBook 540c + Mobility Bundle Bigger HD+Modem	12/500	£3499 (£4112)
PowerBook Duo 250 -Whilst Stocks Last-	4/200	£1139 (£1339)
PowerBook Duo 280 + Mobility Bundle	4/200	£1749 (£2056)
PowerBook Duo 280 + Mobility Bundle +Modem	12/200	£2099 (£2467)
PowerBook Duo 280c + Mobility Bundle	4/320	£2399 (£2819)
PowerBook Duo 280c + Mobility Bundle +Modem	12/320	£2699 (£3172)

PHONE AND ASK ABOUT GREAT PRICES ON OUR RANGE OF POWERBOOK ACCESSORIES

EPSON SCANNERS

Check out the new 9000, scans at up to 2400dpi, 30 bit technology, 16.7 million colours!

GT 6500 No Software	£519 (£610)
GTX 6500 Omnipage & Photshop LE	£559 (£657)
GTi 6500 FULL Photoshop	£719 (£845)
GT 8000 No Software	£669 (£787)
GTX 8000 Omnipage & Photshop LE	£739 (£869)
GTi 8000 FULL Photoshop	£895 (£1052)
GT 9000 No Software	£799 (£939)
GTX 9000 Omnipage & Photoshop LE	£895 (£1052)
GTi 9000 FULL Photoshop	£1059 (£1245)

"Call us for your 'DEAL FOR DEAL' PRICE MATCH!"

Finance and Leasing Facilities are available for both personal and business customers (subject to status, please ask for written details)

APPLE DESIGN SPEAKERS

Just plug in for an excellent sound boost to your Mac

£51 (£60 Inc VAT)

GH ESSENTIALS PACK

- High Quality Mouse Mat
- Floppy Disk Drive Head Maintenance Cleaner
- Mouse Mechanic Maintenance Tool
- 10 TDK DSHD 3.5" Disks

£14 (£17 Inc VAT)

MORE PRINTERS...

FREE CABLE WITH ALL PRINTERS

INKJETS...

Portable StyleWriter Mono, 300dpi - Ideal for use with PowerBooks	£229	(£269)
HP DeskWriter M 520 Mono, 300dpi	£219	(£258)
HP DeskWriter C 560 Colour, 300dpi NEW LOW PRICE	£374	(£440)

LASERS...

Personal LaserWriter 320 A4, 300dpi, 5ppm, PostScript 2	£629	(£740)
LaserWriter Select 360 A4, 600dpi, 10ppm, PostScript 2	£1249	(£1468)
GCC BLP Elite 600 - 4Mb A4, 600dpi, 10ppm, PostScript 2	£1219	(£1433)

HARD DISK DRIVES...

EXTERNAL...

170Mb Capacity	£239	(£281)
270Mb Capacity	£279	(£328)
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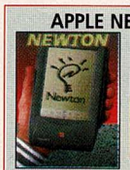

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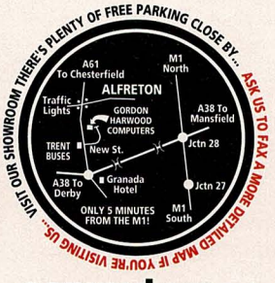

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Every letter published wins a binder – at least until the Publisher finds out! Write to 'Apple Talk', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

After two years, Stuart the Publisher has moved on to do something easier, like spearheading Future Publishing's expansion into on-line publishing. (After MACFORMAT, it's bound to *seem* easier.) So say hello to Jim the New Publisher. Jim doesn't know that every letter printed on these pages wins an exclusive MACFORMAT binder. Yet. So write to us now, before Jim gets around to reviewing our budget...

Plug in and play

Here's a tip that will help anyone who is interested in graphics but objects to the high price of graphics software (or is an unemployed father of two and will never have the cash to buy expensive third-party plug-ins).

Many graphics programs will accept *Photoshop*-compatible filters, so check some of the graphics-related demos for their plug-ins.

For example, the brilliant MACFORMAT February CD-ROM has a demo of Adobe *Premiere* which has lots of its own specific plug-ins, a few of which will work – for example, Crystallise, Pointillise, Radial Blur. Some are copy-protected to work only with *Photoshop 2.5*, but I've noticed that other filters in earlier demos are not. With trial and error you can produce one or two excellent results and gain access to some of the special effects that make working with Mac graphics so much fun.

ColorIt 3.0 is a cheap graphics prog that will accept these plug-ins and, quite frankly, will do a lot of what *Photoshop* can do – another good tip if the prospect of ever finding a few hundred pounds seems remote!

Bo Walker
(an unemployed father of two!)
London N8

Makes sense to me. So long as you're not pirating the plug-in – that is, if it was given away with a demo or something, implicitly giving you a licence to use it – and you can get it to work with your programs, it's legally the same as using freeware QuarkXPress *XTensions or* PageMaker *Additions.*

Office boy writes...

I have been a subscriber to MACFORMAT almost from the first issue and have always recommended it to fellow Mac users as the best of the crop. However, I was most upset to see the following caption in the February issue:

> 'The inclusion of a Greenpeace video in no way reflects the politics of MACFORMAT. Personally I think there is no sport more noble than hunting cuddly seals with a baseball bat in your hand. Tally ho!'

I was totally offended, amazed and disgusted that this totally moronic and unnecessary remark could find its way into a previously sophisticated, quality magazine.

I am not a member of Greenpeace but I do abhor the hunting and fur trade, as do many people with a modicum of intelligence.

I searched the article for a name, and as I couldn't find one I can only assume that this *is* the opinion of the Editor. Please tell me that it was the ravings of an offensive

THE SECRETS OF MACFORMAT'S SUCCESS...

We said it on the cover of our first issue, two years ago: our purpose is to help you get more out of your Mac. Could that be why MACFORMAT is now Britain's best-selling Mac magazine?

I am a 21-year-old American exchange-student in Norway. I had never seen your magazine before I came to Norway this past summer, but now I'm very glad I've found it. MACFORMAT is far and away the most friendly and enjoyable Macintosh publication that I have read.

I am very impressed by your 'user-friendliness', shall we say. There are no Mac magazines in the States which consistently have interesting software attached, or which look at the Mac computing world with the same friendly and excited tone which MACFORMAT has. As a matter of fact, when I read MACFORMAT I feel like I'm part of the magazine, and that is a very refreshing feeling – a nice escape from the seriousness and cynical attitudes of the American magazines. It is nice to see something produced by people who are truly excited about the existence of Macintosh computers.

Clay Heaton
Lena, Norway

The first two issues of MACFORMAT *were bi-monthly, so this month marks our second anniversary. We don't normally publish fan letters (though we don't mind getting them at all!), but Clay's gives us the opportunity to tell you a bit about our philosophy...*

MACFORMAT is for you, the person who sits in front of the keyboard, not just for systems managers or network gurus. Our purpose is to help you get more out of your Macintosh, whatever you use it for, with tips, techniques and tutorials covering the whole range of Mac applications, from graphics, DTP, education, spreadsheets and databases to music, comms and games. We'll bring you features about exciting Mac developments and novel uses, tied in with cover disk programs whenever possible, so you can discover what your machine can do and try things you haven't tried before.

MACFORMAT will keep you up-to-date with all the Mac-related news, and also keep you informed about the wider issues, the people behind the headlines and the stories behind the stories.

MACFORMAT will bring you authoritative reviews of interesting and affordable products, with clear buying recommendations. We have a cast-iron policy of editorial independence.

Our news pages will bring you details of forthcoming releases, but MACFORMAT does not review demos or beta-test versions of unfinished software. We review only finished products – the ones you yourself could buy in the shops – and our reviews have one thing in mind: not to promote manufacturers' or advertisers' interests, but to inform you what you'd be getting if you bought the product, and help you decide whether it's worth your money. We will never compromise this principle or rush a review into print for the sake of an 'exclusive' – that's not fair to you or to the product.

MACFORMAT's covermounted disks and CD-ROMs are not just an added extra. They offer you demos so you can try software before you buy, useful utilities (specially chosen to complement features inside the magazine when applicable), selected shareware programs, games, readers' contributions and more, making the magazine-plus-disk a complete interactive package.

Whether you're a novice or an expert, MACFORMAT will talk to you in plain language, without jargon. We'll explain the basics clearly, without talking down to newcomers – we're all Mac enthusiasts and want to share our enthusiasm, not impress anyone with our 'expertise'. We welcome contributions and feedback from our readers, to help make MACFORMAT the Macintosh magazine you want to read.

Alex Summersby

adolescent office boy who wrote it on a Pentium PC between games of *Wolfenstein* and somehow slipped it past the editorial. Really, I cannot believe it was approved by anyone, let alone the Editor.

I would really like a reply, to be reassured that this was indeed an error or mistake before I cancel my subscription and circulate a copy of the article to an Animal Liberation organisation.

Jeannie Harris
Manchester

The caption in question was written by Derek Smith, who compiles our cover disk and CD. Derek replies: 'Yes, the caption was offensive and shocking. It was supposed to be. It was an ironic comment on animal cruelty. Lynx used the same shock tactic in their anti-fur-trade video which featured a lady dragging a fur coat dripping blood. I'm sorry you missed the irony of applying the words "sport" and "noble" to the act of clubbing seals to death.'

Personally (this is the Ed speaking now), what puzzles me is how you knew about the Wolfenstein *part...*

Fun and games

The *Inside Mac Games* special on MACFORMAT 19's CD-ROM was filled with tons of games, cheats, updates, playable demos, movies of upcoming games. I think this is the greatest idea you could have. Here in Switzerland, I can get British, American, French, and Swiss Mac magazines but only you, the one I really love, speak about games. I have a little request from me and some friends of mine: keep giving previews, playable demos and shareware games on your CD-ROM. And continue offering hints and game solutions, along with reviews and previews of games in the magazine.

Avaltroni Fabrice
Geneva, Switzerland

Well, Macs are for fun as well as for serious stuff. And we always welcome ideas and suggestions for what to include on our cover disks and CD-ROMs. Write to 'Disk-cussion' at the address opposite. If you have any favourite shareware, or any programs you've written yourself, send that in too!

Preferences

I really like MACFORMAT and its cover CDs, but I would prefer not to have 'time-limited' software on them. I understand that with programs such as *PopupFolder* (MACFORMAT 14 – a great help!) this is the only way to limit them, but I would prefer more shareware or cut-down demos such as *Syndicate* which are not time-limited and only cost a small shareware fee. I'd also like to get any *QuickTime* movies or sound samples you may pick up on the disc.

Old Redman ***[I think it says here]***
Fraser, ACT, Australia

Did I mention that we always try to have a token Australian in each issue as well? Even if their signature is almost totally illegible...?

No F'ing PU

When I tried out the program *Fractal* (from MACFORMAT 20's cover disk) I was confronted with the message, 'This program requires an FPU and at least a 68020 microprocessor.' I have an '030 processor but no FPU. What is the problem here and how can it be solved?

Ciaran Luttrell
Cork, Ireland

The problem is that you have no FPU. No, seriously: a Floating Point Unit or maths co-processor is an extra chip which takes over some maths-intensive calculations from the central processor. This is helpful for programs that need a lot of calculations, such as spreadsheet and graphics applications – some won't work without one. You won't need to buy an extra chip though: Fractal *will work quite happily with a clever little software solution called* SoftwareFPU, *which we've included on issue 18's cover disk and again on this month's.*

Lost in the 'Net

I am thinking about buying a modem to access the Internet. At first I thought it would be a case of buy a modem, plug it in and dial a number, but it doesn't seem to be so simple. I don't know exactly what I want out of the Internet – I won't know until I've used it. All I know is that I want to be linked as cheaply as possible with a fast but cheap modem. I don't want to spend a lot of money and I *do not* want to be stuck with a turkey. So:

1. Which is the cheapest service I can link to, to keep the bills down?
2. The cheapest 14.4bps modem?
3. A good book I can buy to help me find my way around?
4. Are there any services where you just pay a subscription and don't pay a phone bill?
5. Is ordering by mail cheaper and is it safe?

Iain Watt
Edinburgh

Next issue, MACFORMAT *will bring you a* free, *cover-mounted, 100-page book about the 'Net, which should answer most of your questions. In the meantime: the only way to avoid paying phone bills is to have your own dedicated ISDN line to a service provider, be a service provider yourself, or have someone else pay them for you. Buying from a reputable mail order dealer is perfectly safe and can save you money – for some helpful advice, see page 124. As for an Internet guidebook, see page 85.*

UnMounting It

In MACFORMAT 21 your article on 'bomb busting' mentioned that you sometimes can't eject CD-ROMs when you have file sharing turned on because the System thinks the CD is being shared even if it isn't, and you included *UnMountIt* on the cover disk as a solution. I wanted to say that if networked CD-ROM users wait 30 seconds, while sharing starts up (or until the shared folder's icon changes), before putting the CD in, then you can eject CDs with no problem at all.

Ed Clarke
London W6

Thanks for that tip. I still reckon the System must be pretty dumb though.

Alex Summersby

GET IN TOUCH

- Our address for letters is on page 34 – the shorter your letter, the better its chances of being printed. Longer letters may be published in our occasional 'Soapbox' section. If you'd like your letter included in the 'Readers' Corner' on our CD-ROM, send it in as a *TeachText* document on a disk marked 'MACFORMAT Readers' Corner'. Include your name and address (but leave out the defamation and obscenity please), and note that we can't return your disk.
- Our fax number is 01225 446019. Please write 'MACFORMAT' prominently at the top or it won't be forwarded to us.
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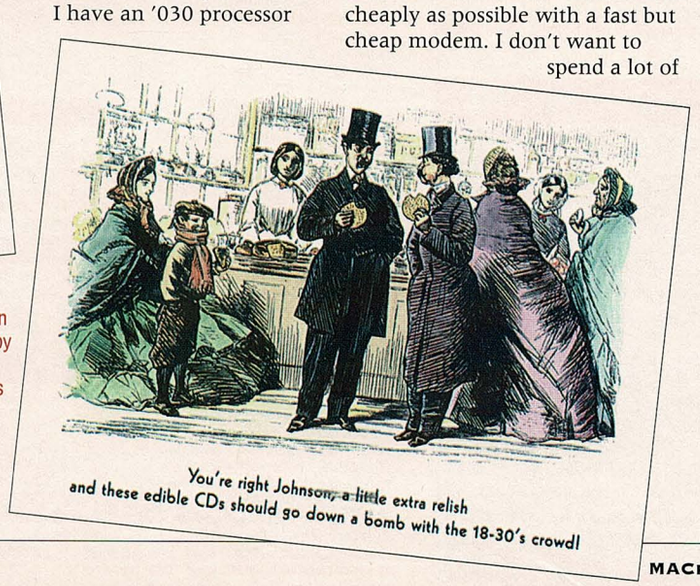
- If you have a defective cover disk or CD-ROM, please do not return it to the editorial address. We do not have replacement disks here. The addresses for duff disks and CDs are on page 8.
- The really fine print: all correspondence sent to our editorial address will be considered for publication unless you specifically state otherwise, and we reserve the right to edit published letters for reasons of space, clarity or legality.

Two more winners of MACFORMAT binders: Alan Johnson of Nottingham sent us this postcard of 'Winter Bears' by Jeff Koons, appropriately embellished, and Chico Kidd of Ruislip Gardens, Middlesex, has undoubtedly put his finger on the one sense that multimedia hasn't yet appealed to. Remember, whenever you write to MACFORMAT or enter a competition, an eye-catching postcard could win *you* an exclusive MACFORMAT binder too! (Mac-related embellishments not compulsory.)



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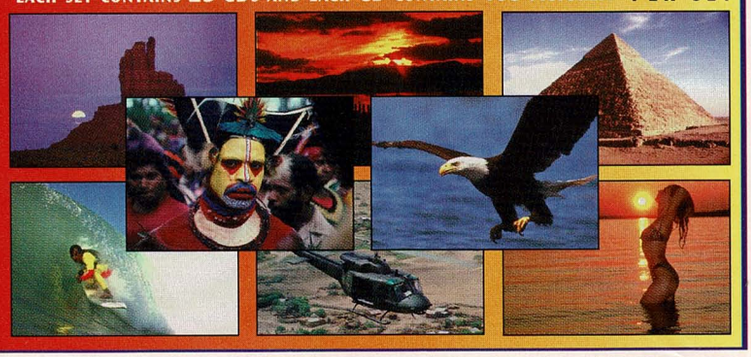

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Daystar Turbo 040 (68040, faster than a Quadra) ...from £545.00
Daystar Power Pro (PowerPC accelerators) .....from £1295.00
Radius Rocket (faster than an FX, 25Mhz 040) .....from £995.00
Math Co-Processor (speed up your Classic II or LC) £39.00
VRAM Mac LC & Quadra (adds more colours) .....from £23.00

ACCESSORIES

Cables (we have a wide range - please ring) .....call
Toners/Ink Cartridges (for laser & inkjet printers) .....call
Floppy Disks (pre formatted) .....from £0.55
Mouse Mat, Wrist Rest, Dust Covers .....from £5.00
Anti Glare Screens (eases eyestrain) .....from £35.00
Security Systems (is your Mac vulnerable to theft?) ....from £29.00

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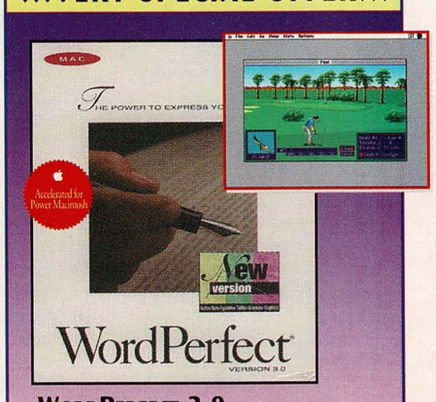

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*Same day delivery in London area is available.
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MEMORY

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SM2MB	2Mb SIMMS - 80ns..... £59
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SMN4	4Mb SIMMS - (72pin) 60ns..... £110
SM8	8Mb SIMMS - 70ns..... £255
SMN8	8Mb SIMMS - (72pin) 60ns..... £235
SM16	16Mb SIMMS - 70ns..... £440
SMN16	16Mb SIMMS - (72pin) 60ns..... £420
SP06	PowerBook Memory (all sizes)..... call

Tilt & Swivel stands (for Classics and monitors) .....from £24.00
Mac Carry Bag (Plus, SE, Classic) £55.00

PROGRAMMING

Frontier (first Finder level scripting system for the Mac) ..£295.00
HyperCard 2.2 (new version, more power) £95.00
Metrowerks Code Warrior (Compiler for 68k code or P.Mac native) ....from £65.00
Symantec C++ (best object oriented programming tool) ...£279.00
Supercard 1.7 (more powerful than hypercard) £225.00
Think C 6.0 (the leading Mac app development tool) £159.00
Think Pascal 4.0 (excellent developer level compiler) £139.00
FutureBasic (far and away the best Basic for Mac) £125.00

EDUCATION

UP TO 12 YEARS

Fine Artist (great fun paint program) £37.00
Kid Desk (desktop for kids, protects your own data) £29.00
KidsTime (5 learning programs for the 3 to 7 year old) £32.00
KidsMath (takes kids from counting to arithmetic) £32.00
KidPix II (wonderful paint program with sound effects) £34.00
Launch Pad (animated desktop, secures your files) £35.00
NumberMaze (award winning arithmetic tutor) £39.00
Peter Pan (the eternal favourite) £27.00
ReadingMaze (letter recognition to sentences) £39.00
Spelunx (brilliant game-like learning environment) £29.00
Storybook Weaver (build your own stories) £23.00
Swamp Gas Europe (geography learning game) £25.00
Yearn to Learn: Peanuts (basic learning skills) £37.00
Yearn to Learn: Snoopy (5-9 age group learning skills) £39.00

FROM 10 YEARS UP

Visions (detailed astrological horoscopes and charts) £29.00
Creative Writer (DTP for kids) £37.00
EarthQuest (a new type of multi curricular learning) £34.00
MacGlobe (complete world info, maps. Essential) £39.00
Decimals & Fractions Maze (helps older kids) £39.00
Typing Instructor (good training from basics to touch) £25.00
Voyager Astronomy (fascinating desktop planetarium) £105.00
Where in World is Carmen DeLuxe (geography based) £49.00

Special low Education prices are available on some products, including Microsoft, Claris and others to authorized educational establishments with Educational Purchase Orders.

CD ROM

GENERAL/GAMES

CD ROM Toolkit (speeds up CD access) £59.00
7th Guest (an incredible real time 3D adventure) £35.00
A Hard Day's Night (The Beatles Movie on CD) £29.00
Ancient Lands (multimedia history) £39.00
Battle Chess (full colour animated Chess Game) £35.00
Beethovens 9th (the symphony and all about it) £65.00
BMUG (huge collection of public domain and shareware) ..£29.00
David Bowie - Jump (pop culture goes interactive) £29.00
How God Makes God (ingeneous spriritual guide) £25.00
Iron Helix & Dark Seed (fantastic space/adventure bundle) .£25.00
Legend of Kyrandia (journey through magical lands) £29.00
MYST (magical mystery adventure) £35.00
"Prince" (music and multimedia from the great one) £35.00
Return to Zork (multimedia adventure game) £35.00
Rebel Assault (Star Wars like game - brilliant) £35.00
Theme Park (create the best theme park ever!!) £34.00
Xplora (Peter Gabriel's amazing multimedia CD) £29.00

EDUCATIONAL

Arthurs's Teacher Trouble (interactive story book) £29.00
Arthurs's Birthday (more Arthur) £35.00
Dinosaurs (the "must have" CD of the year) £45.00
Grandma and Me (delightful kids story) £29.00
Harry and the Haunted House (the new best seller) £34.00
KidPix Studio (KidPix plus animation) £35.00
Learn to Speak French (aah... learn to speak French) £115.00
Math Workshop (math tutoring 5-12 age group) £34.00
Peter and the Wolf (interactive fairy tale) £29.00
Ruff's Bone (adventures with Ruff the dog) £35.00
Tortoise and the Hare (well....) £29.00
The Journeyman Project (amazing 3D adventure) £45.00
Thumbelina (interactive fairy tale) £29.00
Wallobee Jack (wonderful interactive kids cartoon) £27.00

REFERENCE

3D Atlas (simply wonderful) £49.00
Art Gallery (Microsoft's tour of the National) £39.00
Book Shelf (superb CD ROM for everyday reference needs) ..£75.00
Cinemania (19000 movie reviews and more) £39.00
Distant Suns (astronomy based cd) £65.00
Dictionary of the Living World (award winning) £29.00
Encarta (fantastic multimedia encyclopedia) £79.00
Groliers Encyclopaedia (21 volumes, 9 million words!) £89.00
Halliwells (the famous film encyclopaedia on CD) £25.00
How Computers Work (excellent guide to technology) £40.00
Jupiter (photos of the comet impact) £26.00
Macbeth (the Scottish Play) £65.00
Musical Instruments (Microsoft's excellent entry) £39.00
Oxford English Dictionary (the whole thing on CD ROM) ..£425.00
Red Shift (superb astronomy program) £45.00
Shakespeare Complete Works (at your fingertips) £65.00
Small Blue Planet (pictures, geography of the planet) £49.00
Star Trek Interactive Tech Manual (tour de Enterprise) £35.00
Warplanes (an interactive history) £49.00
Wild Blue Yonder (US fighter planes, stunning) £35.00

MUSIC

EZ Starter Kit (MIDI interface, EZ Vision, book) £175.00
Concertware Pro (composer and player) £189.00
Practica Musica (teaches music theory and ear training) £75.00
SongWorks (interactive music composition) £75.00
Super Studio Session (8 voice composer and player) £69.00
MIDI Interface £59.00

UTILITIES & DA's

PRODUCTIVITY ENHANCERS, FILE & DISK MANAGEMENT

At Ease (secure Finder replacement) £35.00
Conflict Catcher II (INIT manager and more) £49.00
CDU (excellent collection of Desktop utilities) £49.00
DiskDoubler (fast file compression) £39.00
DiskDoubler Pro (DiskDoubler,AutoDoubler,CopyDoubler) ..£65.00
Exposure Pro (screen dump utility with paint tools) £82.00
First Things First (alarms, reminders, to do's) £45.00
Hard Disk Toolkit (the best formatter and checker) ...from £59.00
InitPicker 3.0 (choose to use or disable your startup Inits) ..£39.00
MacTools Pro 4.0 (disk safety and protection utility) £79.00
Now Up-To-Date (calendar and reminder system) £65.00
Norton Utilities 3.1 (best selling utilities package) £79.00
Now Utilities 5.0 (suite of essential utilities) £65.00
PopUpFolder (view folder contents with submenus) £30.00
QuicKeys 3.1 (macro maker, time saver utility) £85.00
QuickDex II (lightning fast DA database, essential) £32.00
RAMDoubler (actually doubles your available RAM!) £55.00
Stacker (doubles your disk capacity) £69.00
Stuffit DeLuxe (famous file compression program) £59.00
Suitcase 2.14 (manage your font menus) £35.00
WindoWatch (logs time usage of windows) £85.00

SECURITY

Citadel (lock your info from prying eyes) £59.00
DiskGuard (control access to your hard drive) £69.00
Empower (file & data security) .....from £120.00
MacPrefect (secures most aspects of the Finder) £30.00

SCREEN SAVERS

After Dark 3.0 (famous screen saver with many modules) ..£26.00
Disney Screen Saver (simply magical) £27.00
Ultimate Star Trek (screen saver and posters bundle) £39.00
The Far Side (Larson at his best) £29.00
The Flintstones (cartoon, movie and now...) £19.00
The Simpsons (irreverent humour) £29.00
Underware (humorous screen saver) £25.00

BACKUP & VIRUS PROTECTION

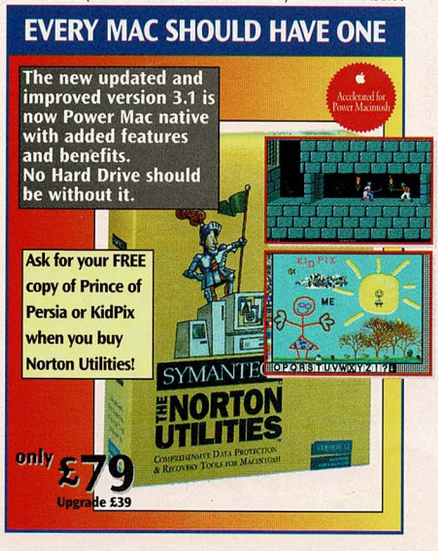
DeskTape (treats DAT as if it were a 2Gb drive) £225.00
Personal Backup (best value backup on the market) £35.00
Redux Deluxe 2.51 (powerful floppy backup) £49.00
Retrospect 2.1i (most sophisticated archival backup) .from £145.00
SAM 4.0 (Symantec's anti virus utility) £55.00
Virex 5.0 (best virus tracer & eradicator of all) £59.00

ENTERTAINMENT

ARCADE

✔Best Sellers Pack (Hellcats, Spectre, SuperTetris) £32.00
✔Crystal Quest 2 (Britain's favourite game) £22.00

EVERY MAC SHOULD HAVE ONE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325Mb	£299.00			£155.00
500Mb	£350.00	£345.00	£315.00	£199.00
1000Mb	£675.00	£575.00	£625.00	£425.00
2000Mb		£1075.00	£999.00	£849.00
4000Mb				£1845.00

120Mb Optical Drive £575.00
230Mb Optical Drive £675.00
D2 88Mb Syquest Drive £270.00
D2 200Mb Syquest Drive £399.00
2Gb DAT Drive £875.00
44Mb Syquest Cartridge £45.00
88Mb Syquest Cartridge £55.00
200Mb Syquest Cartridge £65.00

✔Crystal Crazy (sequel to Britain's favourite game) £34.00
✔Deliverance (hack and slash) £29.00
✔Lemmings/Oh No! More Lemmings Bundle £22.00
➢Marathon (prepare to meet thy "Doom") £39.00
✔Prince of Persia II (more and better, can you resist?) £29.00
➢Sensory Overload ("Doom" for the Mac) £35.00
✔Theme Park (create the best theme park ever!!) £34.00

SIMULATIONS

✔Civilisation (create your own) £29.00
➢Chuck Yeager's Air Combat (fly with Chuck) £34.00
✔Crystal Caliburn (classic pinball game) £32.00
➢F/A18 Hornet (from the creators of Hellcats) £49.00
➢Flying Nightmares (strategy and flight sim in one) £22.00
✔Ferrari GP, Fokker Triplane, P51 Mustang Bundle £29.00
➢Best Sellers (Hellcats, Tetris, Spectre Bundle) £32.00
➢Hellcats Mission Disk (8 more missions) £25.00
➢Korean Crisis (mission disk for F/A18) £25.00
✔Microsoft Flight Simulator (serious, realistic, accurate) ..£35.00
➢Out of the Sun (dogfight in three WWII battles) £22.00
✔Pathways into Darkness (kill the evil maze monsters) £39.00
✔PGA Golf II (far and away the best Golf game) £29.00
✔Links Pro Golf (so realistic you'll think you're there!!) £34.00
✔Populous II (want to play God?) £29.00
✔Powermonger (can you rule the world?) £29.00
✔Sim City 2000 (design and run your own city) £29.00
✔Syndicate/Populous I (control the world) £34.00
✔Sim Classics (Sim Life, Ant and City in one bundle) £29.00
✔Theme Park (create the best theme park ever!!) £34.00

ADVENTURES

✔Battle of Britain (what can one say) £37.00
✔Lost Treasures of Infocom (bargain bundle of adventures) £22.00

BOARD/CARD GAMES

✔Battle Chess (animated and powerful game) £25.00
✔Bridge (from novice to advanced playing levels) £24.00
✔Chess Champion (best Chess game) £25.00
✔Eric's Ultimate Solitaire (a dozen patience games) £35.00
✔Power Poker (dozens of games) £29.00
✔Shanghai II (great graphics, addictive brain teaser) £17.00

KEY ✔ works on most Macs, ➢ Colour Macs only. Please check whether your chosen game is compatible with your Mac when ordering.

BOOKS & TRAINING

Top 20 best-selling books

1. Little Mac Book £14.99
2. Photoshop Wow Book £31.61
3. Macworld Photoshop Bible £26.99
4. The Macintosh Bible 5th Ed £34.99
5. The Quark Xpress Book £24.99
6. The Tao of Applescript £23.35
7. Design Essentials Illustrator/Photoshop £29.95
8. Using FileMaker Pro 2.0 .....£25.95
9. Mac Internet Tour Guide £26.40
10. Macworld Mac Secrets £36.99
11. Using Word 6.0 for the Mac £24.95
12. Resedit 2 Complete £28.95
13. PageMaker 5.0 for the Mac £22.95
14. The Mac is not a Typewriter £9.99
15. Complete HyperCard 2.2 3rd Ed £32.50
16. Using ClarisWorks £20.95
17. Macworld Networking Handbook £26.99
18. Macintosh C Programming Primer Volume II £22.95
19. Inside Macintosh .....from £19.25
20. Macworld Guide To System 7.1 .....£22.95

TRAINING

Personal Training ....4 to 6 modules per app, each module £49.00 (audio cassette application training for:
New Mac Users: System 7.0, PageMaker 5.0, Xpress 3.3, Microsoft Works, Word 5.0, Excel 5.0, Persuasion, Illustrator, FreeHand, FileMaker and Claris Works)

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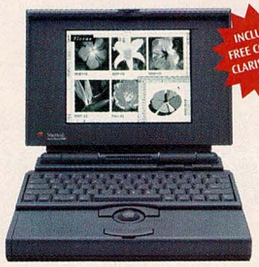
THE APPLE PAGES

POWERBOOK 150



only £945

PERFORMA BUNDLES

Performa 460Plus 4/160 & Performa Display & keyboard, ClarisWorks 2.1, PC Exchange, Typing Teacher, Clip Art collections, Spectre, Kids Educational products £799.00

Performa 475Plus 4/250 & Performa Display & keyboard, ClarisWorks 2.1, PC Exchange, Typing Teacher, Clip Art collections, Spectre, Home Publisher, TouchBase, DateBook £875.00

Performa 630 4/250 & Performa Display & keyboard, ClarisWorks 2.1, PC Exchange £999.00

Performa 630Plus 8/350 CD TV/Video & 15" Multiple Scan Display & keyboard, PC Exchange, ClarisWorks 2.1, Typing Teacher, Clip Art collections, Spectre, Groliers, Dinosaurs and three other CD ROMS £1475.00

PERFORMA CPUs

Performa 460 4/160 ..... £599.00
Performa 475 4/250 ..... £675.00
Performa 475 8/250 ..... £775.00
Performa 630 4/250 ..... £845.00
Performa 630 8/250/CD £1065.00
Performa 630 8/350/CD/TV/Video-in £1245.00
all the above include keyboard, ClarisWorks 2.1, PC Exchange, At Ease and training materials.

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Power Mac 6100/60 8/250 ..... £1150.00
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Power Mac 6100/60 16/250/PC £1450.00
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Power Mac 7100/66 8/350 ..... £1695.00
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PowerBook 520 4/160 ..... £1575.00

PowerPC PowerPC PowerPC

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optional CD, AV & SoftWindows

from only £2395

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PowerBook 540 4/240 ..... £2145.00
PowerBook 540c 4/320 ..... £3175.00
PowerBook Duo 280 4/200 ..... £1795.00
PowerBook Duo 280c 4/320 ..... £2475.00
PowerBook Duo Docking Station £545.00
PowerBook Duo Mini Dock £265.00

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£1745

Apple's top A4 printer offers 600dpi resolution and prints at a whopping 16 pages per minute. FinePrint smooths out lines and curves that normally print jagged and PhotoGrade allows you to print up to 91 levels of grey - equivalent to 1000 dpi! Using the Fax Card all users on the network can exchange faxes with any Group 3 fax machine, and it will print at up to 600dpi if received from another PostScript fax machine. Includes built-in Ethernet.

Newton MessagePad 100 ..... £340.00
Newton MessagePad 110 ..... £425.00

APPLE SERVERS

AWS 6150 8/500/CD & AppleShare 4.0.2 ... £2395.00
AWS 8150 16/1000/CD/DAT & AppleShare 4.0.2 ..... £5495.00
AWS 9150 24/4000/DAT & AppleShare 4.0.2 ..... £7895.00
AWS 95 32/2000/256/DAT & AppleShare Pro £7295.00

APPLE MONITORS

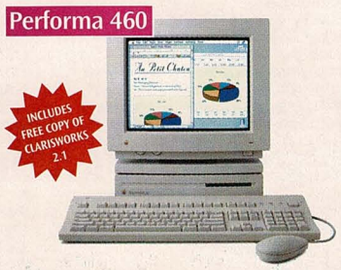
14" Colour £260.00
14" Audio Vision Display £355.00
15" MultiScan Colour £299.00
17" Colour £749.00
20" Colour £1495.00
Video Card 8.24 ..... £205.00

APPLE PRINTERS

StyleWriter II £215.00
Portable StyleWriter £235.00
Colour StyleWriter 2400 ..... £395.00
ImageWriter II £260.00
LaserWriter Personal 300 ..... £450.00
LaserWriter Personal 320 ..... £665.00
LaserWriter Select 360 ..... £1295.00
LaserWriter Select 360 Ethernet Adaptor .. £175.00

DESPITE THE ARRIVAL OF POWER PC, TRIED & TESTED MACS ARE STILL AROUND - AND THEY COST LESS TOO!!

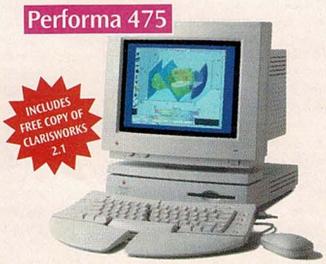
Performa 460



With its 33Mhz 68030 processor, the Performa 460 4/160 is faster than an LCIII and ships with ClarisWorks free

for only £799

Performa 475



68LC040 powered Mac 475 with 4Mb of RAM and a 250Mb Hard Drive including a Performa colour monitor and an Apple Keyboard

for only £875

Performa 630

This is the best Mac since the SE30. It comes with 4Mb of RAM and a 250Mb Hard Drive, keyboard and a Performa monitor - and loads of software!

for only £999

Monitors and keyboards shown may differ in bundles

MacLine™

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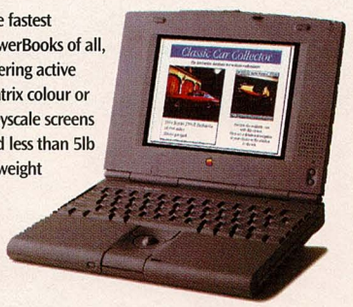
The fastest PowerBooks of all, offering active matrix colour or greyscale screens and less than 5lb in weight



from only £1795

LaserWriter 16/600 PS £1595.00
LaserWriter 16/600 PS with Fax £1745.00
LaserWriter Pro 630 Envelope Feeder. £249.00
LaserWriter Pro 630 500 sheet cassette £99.00

ACCESSORIES

INPUT DEVICES

Keyboard, Apple Design £80.00
Keyboard, Adjustable £165.00
Keyboard, Extended £140.00
Apple CD 300e plus external £195.00
Apple CD 300i plus internal £195.00
Power CD £175.00
OneScanner Colour £975.00

PowerPC PowerPC PowerPC

Power Mac 7100/66

8/350

optional CD, AV & SoftWindows

from only £1445

Apple QuickTake 100 inc. interface £595.00
AppleDesign Powered Speakers £92.00
PlainTalk Microphone £19.00
PlainTalk Software £34.00
ADB Mouse II (Desktop) £39.00
MIDI Interface. £59.00

GENERAL

Apple Presentation Kit £225.00
NuBUS Adaptor. £79.00
6100 NuBUS Adaptor £52.00
Ethernet Card for 630 . . . . . £59.00
GeoPort Telecoms Adaptor £99.00
StyleWriter Cartridges £12.00
Security Kit £39.00

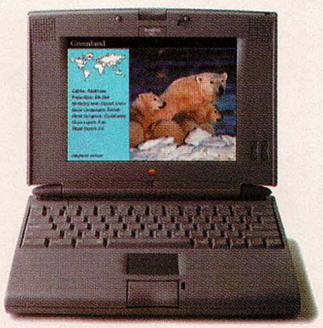
POWERBOOK

PowerBook 140/145/160/170/180 Battery . . £45.00
PowerBook 145/160/170/180 Recharger . . . £69.00
PowerBook Bag Business £45.00
PowerBook Bag Standard. £22.00
PowerBook Duo AC Adaptor. £45.00
PowerBook Duo Battery. £55.00
PowerBook Duo Battery Recharger £86.00
PowerBook 150 Memory Adaptor £24.00
PowerBook Duo Express Modem £225.00
PowerBook Express Modem £305.00
PowerBook 500 Express Modem £345.00

APPLE SOFTWARE

Apple Font Pack £49.00
AppleScript Scripters Toolkit. £120.00
AppleShare 4.0 Software. £1195.00
AppleSearch Server & 5 Clients. £2195.00

POWERBOOK 540c



PowerBook 540 series, with active matrix colour or greyscale screens, trackpad instead of trackball, up to 320Mb internal drive

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Apple Personal Diagnostics £79.00
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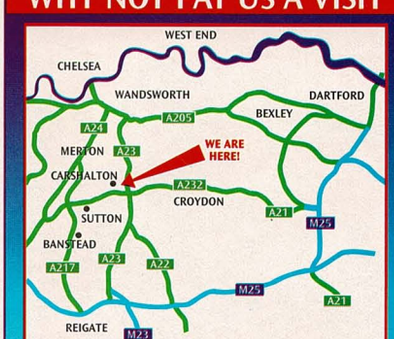

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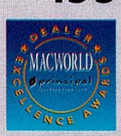

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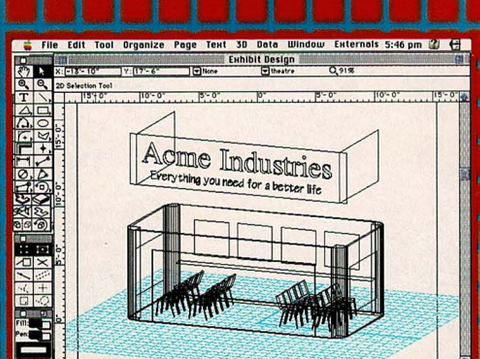
3D a real life adventure

Discover the the hows and whys of 3D as our series on designing and creating stunning images on your Mac shifts into high gear.

Take height and width, place them on your Mac screen, and you have an image. Add depth and sprinkle liberally with laws of perspective and a dash of realistic textures, and you have 3D. It's a great challenge for the programmer: convincing you that three dimensions exist on your 2D Mac screen.

Behind each programmer's efforts to bring the third dimension to your Mac is a quest for realism. No image looks as convincing as one with the illusion of depth, as the greatest artists of the Renaissance proved. They worked long and hard to perfect the techniques that gave their work the potency of the three-dimensional effect. Nowadays your Mac can do the hard work for you. Create your shape, decide where the light's coming and which textures you want, and the Mac takes care of the rest. The only demand on you is your patience.

The ability of the Mac to create realistic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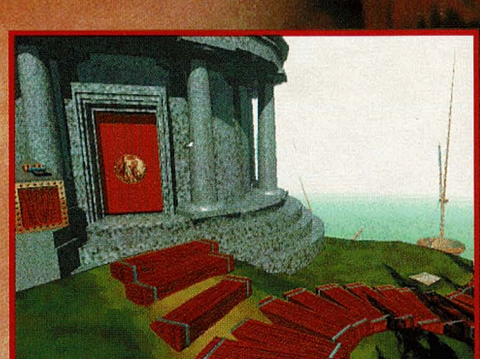
A 3D image begins with a wire frame model. Surfaces and textures are then added on top. (Image from *MiniCad*.)

This *RayDream Designer* image shows how 3D programs can work out shadows and reflections on surfaces for you.



The lushness of *Myst* shows what can be achieved visually, but the potential for animation is limited here.

3D has always depended on how powerful its main processor chip was. Perfection takes time, even on a computer. Even now, the process of drawing – or rendering – a fully-detailed, complex image from scratch is something the average Mac has to be left alone to do overnight. Millions of calculations are required.

It isn't that long ago that anything beyond images of simple line drawings was unthinkable. When it came to 3D, the first Macs were capable of creating only wire frame images before most people ran out of patience. Constructions of lines linked together gave the illusion of shape – an illusion heightened by the Mac calculating which lines should be out of view, and then simply missing those lines out.

As the Mac got faster and colour came onto the scene, the flimsy wire frames became solid by gaining surfaces. Plainly coloured polygon shapes were joined together. Once there was a surface, the real potential of computer-made 3D images could be realised. By adding a light source to the formula, you could make the Mac work out where shadows would be cast.

Modern 3D programs have taken these basic ideas so much further. The principles of adding surfaces to wire models remain the same, but now the surfaces are textured – glittering, reflective facets displaying the surfaces around them. Multiple light sources cast subtle patterns upon objects half-submerged in rippling water, and we can see every shadow, every reflection in perfectly-calculated detail.

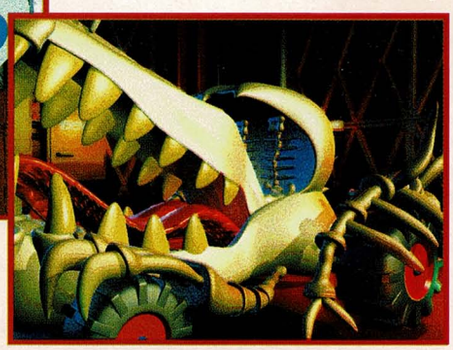
A 2D cartoon turns 3D in a surreal new Mac version of *Wacky Races* from Japan. Dick Dastardly and Muttley have returned!

See Penelope Pitstop and the Anthill Mob in fully-rendered images. There's even limited animation too.

Today, the technique of 'ray tracing' is applied to the frames that you make and position. What this means is that the Mac looks at each point on the screen and figures out what its colour and shade should be, based on light sources, reflections and so on. It takes time – and patience – but the results are worth it.

The astonishing speed of the new PowerMac chips brings closer the Holy Grail of rendering in seconds, rather than minutes or hours. With this objective in sight, the next goal is 3D animation – the ultimate in realism. Imagine a world so rich in texture you could almost smell it – then imagine it alive, with its people and creatures moving as you look around.

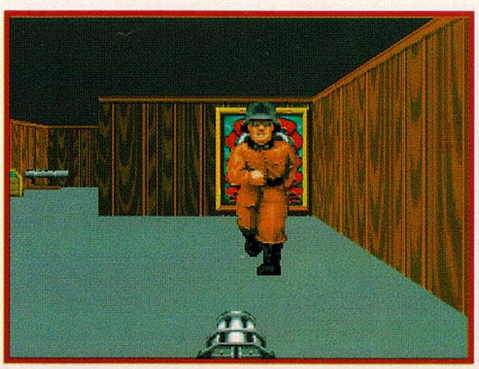
Games like *Myst* are the first to reach for the stars. Its glossy landscapes have shown many what 3D rendering can achieve. Its people, though, are video-made ghosts floating before static backdrops. You can't see the landscapes moving before your eyes because the near-photographic realism takes so long to work out and draw – calling the still images up from a CD-ROM is the only option. At the other extreme, we can rampage through a 3D setting with the advent of games like *Wolfenstein* and *Marathon*. The surroundings are basic – simple tunnels with blocky textures. The two approaches show the programmers' dilemma. Choose between lush, immaculate detail or heady speed – but you can't have both. Yet.



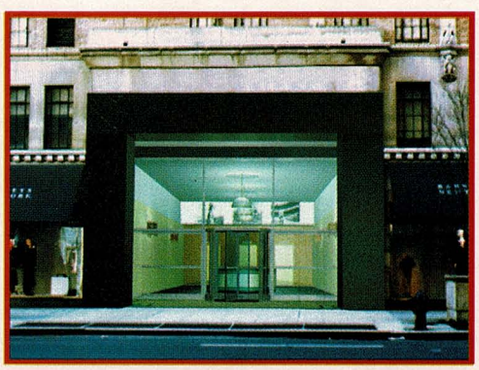
You'll travel around in this bizarre car. Look out for a review of *Wacky Races* in the next issue of MACFORMAT.

You can bet Mac programmers are not going to take a challenge like this lying down. The adventure *Alone In The Dark* – coming to the Mac later this year – uses the polygons that once defined cones and pyramids to create human beings that can be viewed from any angle. Because of the speed limitations that all personal computers are still subject to, the representations are approximate. The fewer polygons that have to be used to draw the figure, the faster it can be drawn.

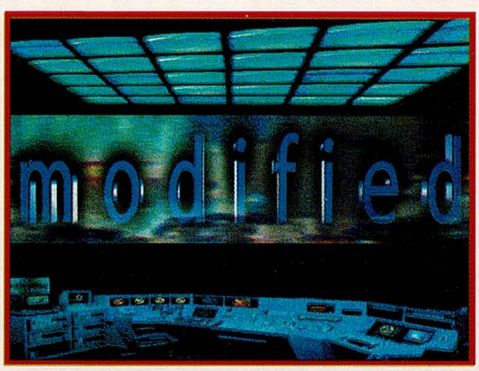
Meanwhile, other avenues apart from the popular but limited polygon method are being explored (see the 'Three steps to 3D heaven'



The corridors and halls of *Wolfenstein* are bare so that they can be drawn quickly enough when you zoom around.



Interior designers can use *RayDream Designer* to show how a projected new shop layout will look in the high street.



You can use 3D software to create spectacular design effects by applying perspective and ray tracing to type.

box for one firm's novel ideas). One day, the dream of believable 3D worlds – worlds that are so convincing they make you gasp – will no doubt be reality.

And where games lead, the rest of the Mac world will follow. What about 3D multimedia (*Ghosts*, reviewed in MACFORMAT 21, used a house as its 3D interface), or even a 3D Mac desktop? It's rumoured that Apple is developing such a version of the Finder – although what form that might take is open to speculation. Perhaps it might make use of the *QuickTime VR* feature to grab an object and twist it around to view from any angle. You could pick up a 3D folder icon and tip it forwards to see what's in it.

The present is exciting enough. You can use your Mac to create 3D images that are the

With a little practice, you can create images like these with our *Infini-D* demo and tutorials over the next few issues.

equal of many things that the professionals produce. And over the next few months, MACFORMAT's series on 3D will take you step-by-step through the processes involved in 3D. This month, we cover the basic 'tools' and techniques needed for modelling. Next month, we'll be dealing with surface mapping and textures. After that, we'll cover scene building, lighting and backgrounds. And in the final tutorial in the series, we'll be exploring rendering and 3D animation.

But for the moment, it's modelling time. Load up your cover disk demo, turn the page, and get ready to add an extra dimension to your Mac...

Richard Hill

■ **For more details of *RayDream Gallery*, contact Principal on 0181 813 5445.**

THREE STEPS TO 3D HEAVEN

The French software developer Atreid Concept, responsible for some whimsical game offerings like *Fury Of The Furries* and *The Tinies*, has now extended its ambitions into another dimension.

'3D is very attractive,' says Atreid's Nicolas Gaume. 'It gives us great possibilities of getting more interactivity, better gameplay and graphics. We started thinking about the best way to produce great animation for characters, which is difficult to do with current technology. It's very mechanical.'

The most sophisticated 3D adventures of today build their characters out of flat polygons. This means the characters can be viewed from many angles, which is important for the cinematic feel some programmers crave. But you have to apply imagination to view them as real people, especially once they start moving. Gaume's assessment is: 'Drawing the polygons takes a lot of time, especially if you want a lot of them, to get better quality graphics.'

Two upcoming games from Atreid take fresh looks at the problems of creating people in 3D. *Warriors*, due by the end of the year, is a beat-'em-up combat game. It takes the likes of *Street Fighter II* into 3D, just as Sega's polygon-based *Virtua Fighter* has done. *Warriors* employs Atreid's 3D Bio Motion (3DBM) system, which takes a far different approach from Sega's. Gaume explains: 'The way we have structured the 3D model is not based on polygons – it's based

Some of the characters from *Warriors*, a beat-'em-up taking a new approach to 3D animation on the Mac.

These early test graphics show how the characters, built from linked pixels, battle across rendered landscapes.

on a group of pixels... dots. All these dots are linked together.'

The Mac doesn't have to waste time on calculating the impact of light on the spaces between each pixel, so a lot of time is saved. There is a penalty for this time saving, Gaume readily admits. 'We don't zoom in too much. If you zoom out, the character gets smaller – it's fine. If you want to zoom in, we have to fill the gaps between the pixels with other pixels.'

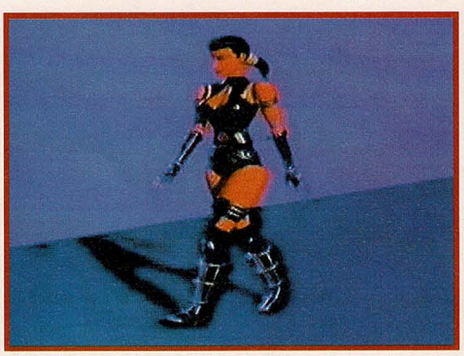
But because each pixel can be a different colour, textures can be created while the figure is being drawn on the screen. 'We don't lose processor time on adding texture because it's already there. We can have much more realism.'

Gaume defines the second title, *Dark Earth*, as a 'mature adventure game'. Due in 1996, this epic future fantasy offers yet another new solution to the challenge of achieving fluid 3D animation on today's machines. It's called ARRA (Advanced Realtime Rendered Actors). He says: 'We pre-render body elements – a pre-rendered head linked to a pre-rendered body. It's a very nice realism, and high resolution graphics, more characters on screen...'

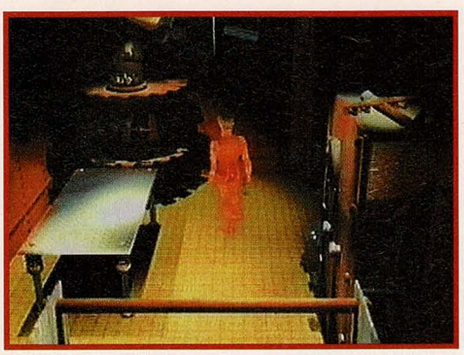
So three dimensions can be achieved with three different techniques. Gaume says Atreid is working on a system that combines the best of each of these varied approaches. 'You maybe have the head in 3D Bio Motion, do the body in ARRA and do the hand in polygons.

'I would say on this global approach that we'll end up with something very powerful, and that's what we're aiming at. I don't say we've been there yet, but the results are quite... encouraging.'

More test images, this time from *Dark Earth*, Atreid's epic adventure with another new approach to 3D animation.



The characters are constructed using pre-drawn body parts, which are joined together and smoothly animated.



In the final version, due in 1996, they'll move and interact across moodily-designed, ray traced backdrops.

Try 3D art and design for yourself with our cover disk demo of *InfiniD*!

3D illustration is a whole lot easier than you think! Once you can understand the basics, stunning images are no problem. Brian Larkman leads you gently into another dimension.

3D made easy

Somehow a rumour has got about that 3D is hard work, too complex for the average computer user, and pretty pointless anyway. Don't believe it! Anyone who can manage *FreeHand* or *Illustrator* and a paint program like *Studio/32* or *Photoshop* already has most of the required skills, and is well on the way to some exciting new illustration techniques; 3D is just one step beyond!

To help you develop those skills and lead you through the basics, this series will look month-by-month at the various aspects of 3D graphics introduced last issue – modelling, surface textures, scene building, animation, and rendering. We will be explaining the technical terms in easy-to-understand language, leading you through the main techniques with tutorials (using this month's cover demo of Specular's *InfiniD*), and describing the huge range of features provided in the cheaper – and sometimes not so cheap – software available for the Mac.

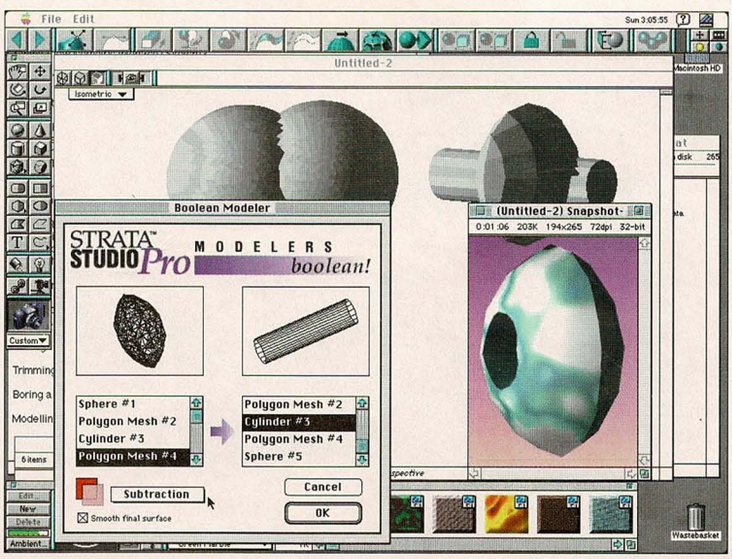
To start with, let's take a look at our basic workshop. You need to know how various interface styles let you visualise the 3D space, and how the simple and sophisticated tools available enable you to construct and refine the objects you invent.

The workshop

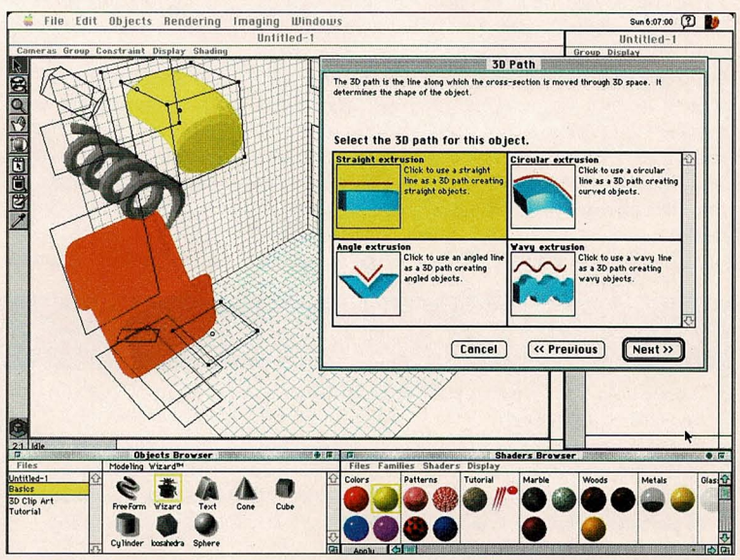
Although the kitchen table and the pavement next to your car are about the only workshops most of us ever use, anyone serious about making and mending things just has to have a purpose-built environment with benches and tools all designed for the job and near to hand. 3D modelling on a Mac is no different: the working environment – the interface – has to be just right for the job you want to do, customisable to your particular working style and preferences. Similarly the tools provided have to be as versatile as possible, simple and intuitive to operate, yet adaptable to a huge range of tasks.

At first, for anyone used to working with real materials, computer modelling can be as restrictive and frustrating as building a ship in a bottle. Don't panic. You just have to remember that this is only an advanced form of drawing, not real construction at all!

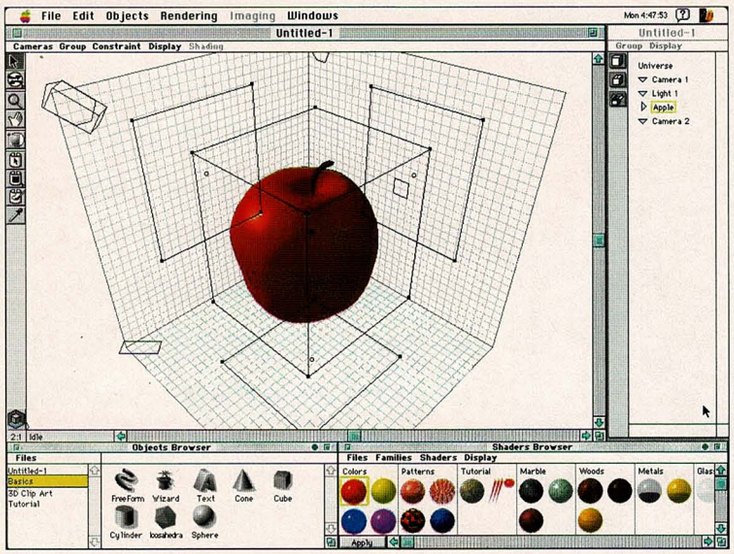
The workshop, or modelling space, can be thought of as a box the size of your monitor,



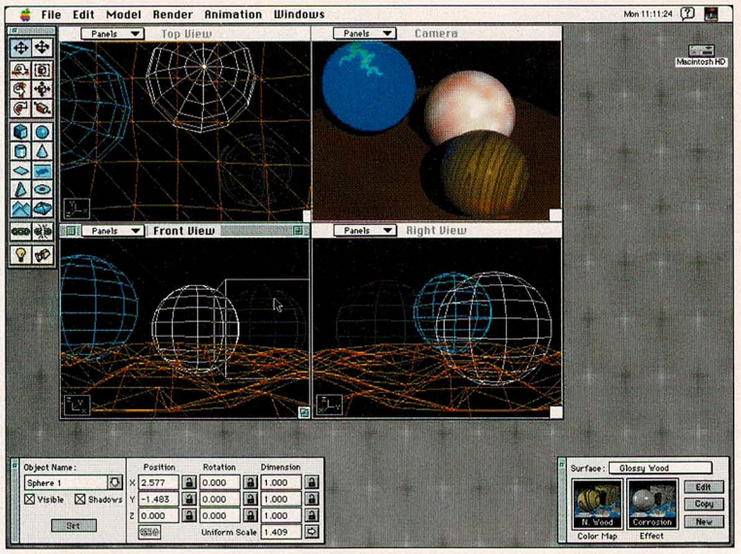
StrataStudio Pro has a series of modelling extensions, or plug-ins. The Boolean Modeller allows objects to cut parts out of each other. Here, two spheres were partly superimposed and processed so that only the overlapping material was left – in a lens shape. Later, a cylinder was used to punch a hole through the centre.


3D Path
The 3D path is the line along which the cross-section is moved through 3D space. It determines the shape of the object.
Select the 3D path for this object.
Straight extrusion
Click to use a straight line as a 3D path creating straight objects.
Circular extrusion
Click to use a circular line as a 3D path creating curved objects.
Angle extrusion
Click to use an angled line as a 3D path creating angled objects.
Wavy extrusion
Click to use a wavy line as a 3D path creating wavy objects.
Cancel
<< Previous
Next >>
Objects Browser
Shaders Browser

RayDream Designer takes a unique approach to all of its processes – and extrusion is no exception. Although normal extrusion is possible, a whole range of alternatives are offered via an interactive help system called the Modelling Wizards. Here the Wizard is about to create a basic, straight extrusion, but wavy, curved and angled alternatives are also possible.



Having your objects projected like shadows onto the three plane views in *RayDream Designer* makes navigating the working area and manipulating objects very easy. The overall interface can seem a little cluttered at times, though, and the curious window-menus can be confusing. But for anyone who has problems visualising in 3D, this is probably the easiest interface.



Both *InfiniD* and *StrataStudio Pro* allow you to have as many views of the scene as you wish. Normally two is enough, although to begin with, using the restricted-size *InfiniD* demo, you may need more so as to see just what you are doing. Try having one window zoomed right in to see the detail, and another zoomed out to see the whole scene.

which, like the Tardis, is much larger on the inside than the outside. The working space is viewed through a window on the monitor screen and the viewpoint can be 'flat' – towards the side, the front or back, the top or bottom; or an isometric 'three-quarter' view – from any direction. The display can also be in perspective for a realistic view, or orthographic (ignoring the effects of perspective) to make accurate modelling and measurement easier.

Computer modelling can seem as restrictive and frustrating as building a ship in a bottle. Don't panic.

Most programs allow you to choose any of these viewpoints. Some, like *Alias Sketch*, restrict you to just one at a time. Others, such as Specular's *InfiniD* and *StrataStudio Pro*, allow four or more views at once, though the more you choose the greater the burden on the screen update times. One program, *RayDream Designer*, provides a unique 'working box'. It combines a variable-perspective view of the object with three intersecting grids representing the flat planes, each of which can display an outline projection of the object, like shadows on a wall. Although this can become rather over-complicated if the model or scene is complex, it provides the easiest method of visualising (and manipulating) the shape, position and orientation of an object in 3D space.

To model the real world effectively, all programs need this: a logical and simple method of navigating the working space. In a workshop you can usually navigate in two ways – by moving and rotating the object, or by moving yourself (that is, your viewpoint). Each of the packages considered here uses a slightly different method to achieve effective navigation, but they all allow manipulation of the object and, separately, of the viewpoint or camera – usually with different sets of tools to avoid confusion. With a bit of practice any of these systems is efficient at navigating objects and viewpoints, so preferences are quite subjective.

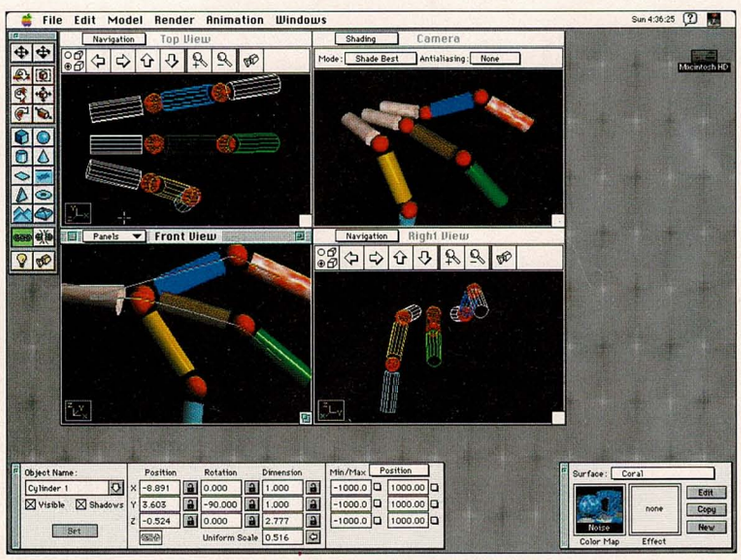
If you have a 3D program to use (the demo of *InfiniD*, perhaps), spend some time before starting proper modelling, experimenting with a simple object – a cube or sphere maybe. Then become familiar with all of the navigation tools and the types of view available. Make sure you know which direction you are looking in each window and how to control the object and viewpoint independently. In many ways this process is identical to learning the controls in a game: you can't really succeed until you can navigate the space intuitively!

Real vs virtual tools

Once you have found your way round the 'workshop', it is time to get a feel for the raw materials. The stuff you will be working is usually a mesh surface a bit like chicken wire (described in the box 'Raw Materials'). Like chicken wire it can be pushed and pulled, clipped and joined into virtually any shape using a range of tools derived from familiar 'real world' construction techniques. The more common ones are described here...

Blocks/Primitives

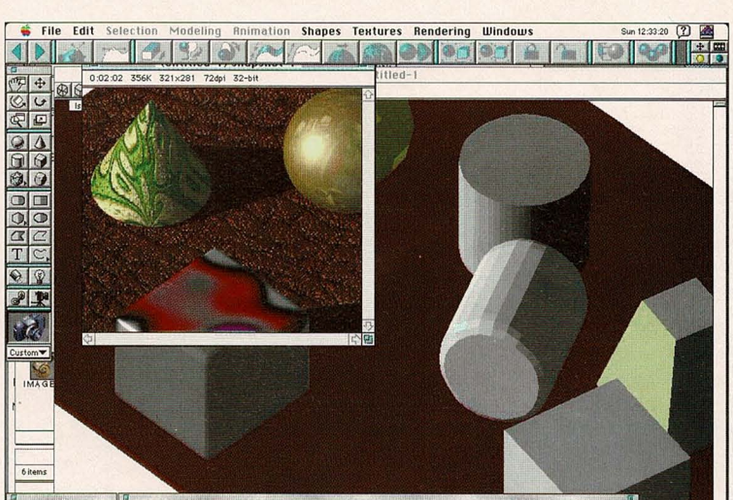
If you examine them carefully, even quite complex real objects can be seen to have derived



The simplest means of joining objects is by grouping them. Once grouped all objects behave as one. The structure is not integrated, so they can be un-grouped. In *InfiniD*, the grouped objects are 'linked' according to the order they were selected. These robot fingers can be articulated as the first link in the finger only controls the first joint, but the last link controls the whole finger.

JARGON BUSTERS

Isometric: a viewpoint such that all three planes of an object can be seen equally well.
Perspective: a way of displaying objects such that those in the distance are naturally smaller (foreshortened) than those close to.
Orthographic: a way of displaying objects that ignores the effects of perspective. In a wire frame view the back face of a cube is the same size as the front face
Extrusion: relatively soft material can be pushed through a shaped hole to form long lengths with a particular cross-section, like toothpaste from a tube. This is extrusion.



Primitives are the basic building blocks of 3D modelling. They are mathematically defined for efficiency, but cannot normally be edited. As well as the normal sphere, cube, cylinder and cone Primitives, *StrataStudio* has a round-corner cube, and several pseudo-Primitives that can be edited (truncated pyramid, bevelled cylinder etc). Only the true Primitives render quickly.

RAW MATERIALS

In the real world, the wood, metal, plastic and stone you use to fashion objects has basic properties that determine the working characteristics of the material. All of them have a hardness, tensile and torsional strength, grain or crystal size and orientation, that force you to use particular tools and control what you can and cannot make from them. The material you use for computer modelling has none of these properties; with the right tools virtually anything can be made from it. But it does have its own characteristics and you should be aware of them.

Computer 'modelling clay' is a mathematical construct based on: points in 3D space known as vertices; lines joining these points known as vectors; complex curves known as splines; and surfaces bounded by the vectors and splines called faces and patches. Vertices, vectors and splines you are probably already familiar with. They are the points, lines and bezier curves of *Illustrator* and *FreeHand*. In most programs they react just as you would expect – clicking on a point selects it and allows you to move it or, if it is a curve, adjust its handles to control the shape.

Put together, these points, lines and curves form a mesh, earlier compared to chicken wire. Like chicken wire, if you move one point or line, all the others close to it can sometimes distort, though the inherent 'give' in the material results in a progressive falling off of the distortion away from the initial point of disturbance. So, in its simplest form, the mesh can be edited by moving individual points without distorting the structure nearby. In a more natural form of editing (provided by most Mac modelling programs), moving a point will reform a curve and deform the object – a 3D version of editing a spline curve. In the most sophisticated software, special curves called Non Uniform Rational Beta Splines or NURBS allow a curve to be deformed at any position, not just at a defined point (hence 'non-uniform'). In effect this means that a surface can be pushed around like soft clay.

from a number of simple geometric building blocks. On a computer, complicated forms can similarly be evolved from simple 'wire-frame' building blocks called 'primitives' – cubes, spheres, cones, cylinders etc – that are mathematically defined, and therefore economical in memory and redrawing times.

Glue/Grouping

To assemble the various components of an object together some joining technique is required – clips, nails, screws, bolts, joints, pegs, glue, welding etc. In our computer workshop, most of these are obsolete because objects can be joined by just telling them to stay together – called 'grouping' them. Components can be separated by simply 'un-grouping' them.

Lathe/Rotated Profile

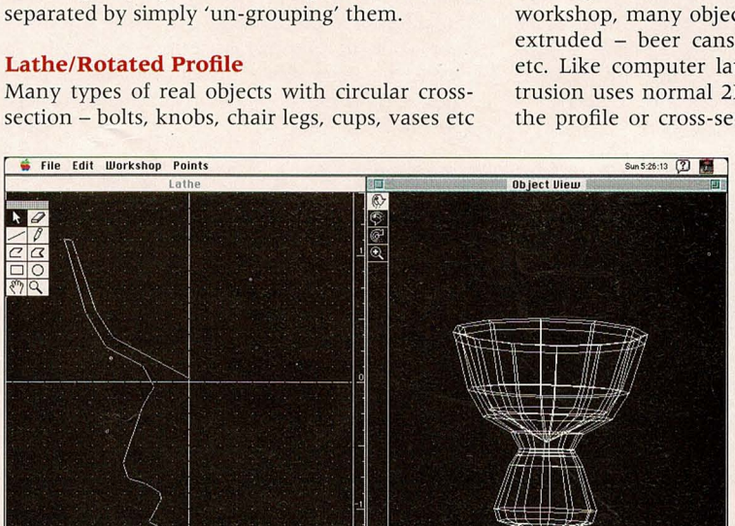
Many types of real objects with circular cross-section – bolts, knobs, chair legs, cups, vases etc – are turned on a lathe or pottery wheel. This technique is widely used on a computer to produce any 'turned' object. Normal 2D drawing tools are used to create the profile or 'cutting tool'. This is then rotated around an axis to define the surface of the object.

Extrusion/Extruded Profile

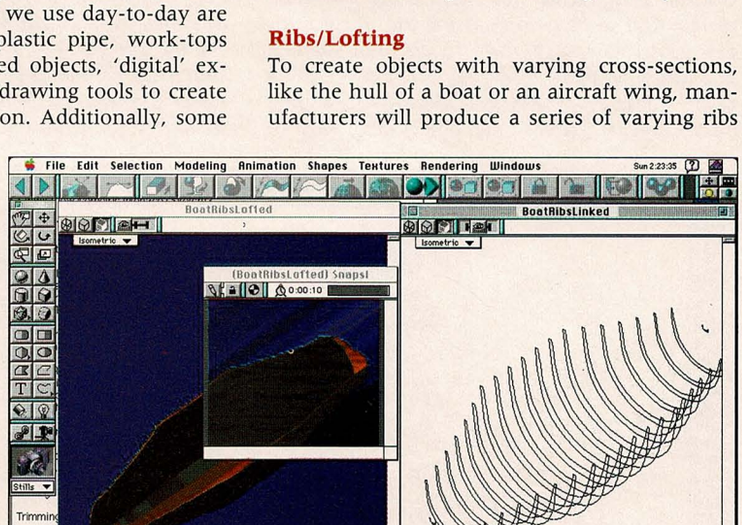
Although difficult to produce in a normal workshop, many objects we use day-to-day are extruded – beer cans, plastic pipe, work-tops etc. Like computer lathed objects, 'digital' extrusion uses normal 2D drawing tools to create the profile or cross-section. Additionally, some programs allow an extrusion path to be used to create curved mouldings, curly-cable, or tubular furniture. They can even vary the size and orientation of the profile for irregular objects.

Ribs/Lofting

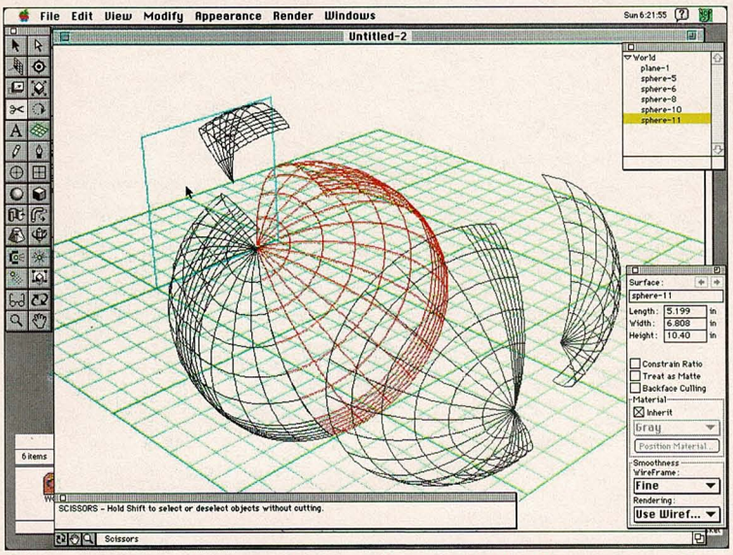
To create objects with varying cross-sections, like the hull of a boat or an aircraft wing, manufacturers will produce a series of varying ribs



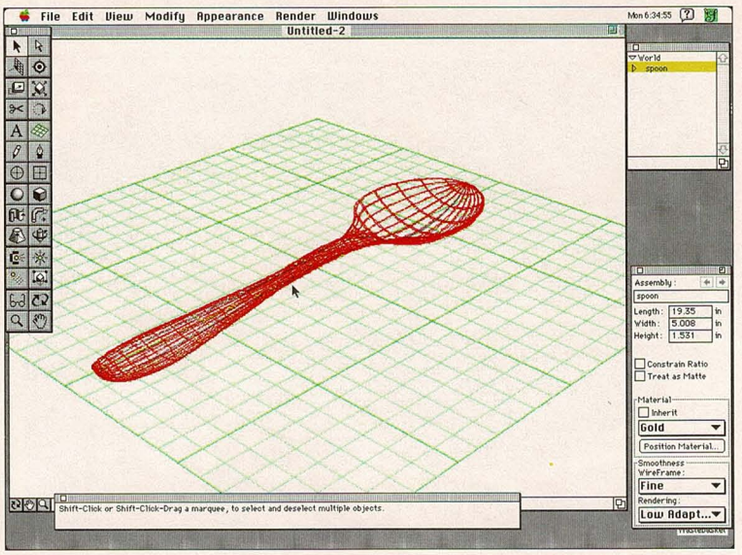
Most programs use a separate screen to lathe, extrude and model objects. Although this avoids confusion, it makes matching detailed profiles with other objects difficult. *StrataStudio Pro* enables the profile to be constructed in the scene first. *InfiniD*, shown here, only enables profiles to be built in the editor, though EPSF files can be imported.



A common way of building lightweight objects is to create a series of profiles – a skeleton if you like – and then skin over them. Roofs, boats, aircraft, coaches, and furniture can all be built this way, both in real life and on the computer. Here *StrataStudio Pro* was used to construct a series of ribs defining the hull of a boat (shown in full to the left).


File Edit View Modify Appearance Render Windows
Untitled-2
SCISSORS – Hold Shift to select or deselect objects without cutting.
Scissors

There are many times when you need just a part of an object, but few Mac programs provide a Slice tool. Of the packages examined here, only *Sketch* can cut an object this way, and it does so simply and easily along a spline. The sphere here has been cut into several pieces, ready to be reassembled, or for the cut surfaces to be meshed over and made into solid objects again.


File Edit View Modify Appearance Render Windows
Untitled-2
Shift-Click or Shift-Click-Drag a marquee, to select and deselect multiple objects.

Sketch only allows one view of the scene at a time. This can make visualising the true shape of some complex objects quite difficult, but mostly you will only *want* one perspective view. The limited viewpoint is more than compensated for by the fantastic 'putty-like' modelling tools known as NURBS (yes, really – the name means Non Uniform Rational Beta Splines).

and 'skin' over them with sheet materials to form a smooth outer surface. A similar technique called 'lofting' can be used digitally to create objects with a set of irregular or changing cross-sections such as a human head or a car body. Although it has no lofting tool, *InfiniD* can get similar irregular objects with its 'freeform' tool. There is too little space to describe its curious operation here. Give it a try for yourself. All you need to do is select the blue 'wrapper' tool, draw a freeform object and then edit it using the **Model/Edit Freeform Object** menu selection.

Trimming and Filing/Point Editing

Once a component has been made by some mechanical means, such as joining, turning or extrusion, you often need to do final shaping and fitting by hand. The computer equivalent is point editing – moving, deleting or adding points, lines or curves to an object 'manually'.

Cutting/Slice Tools

More extensive shaping may need to be carried out by cutting or sawing a component. Some modelling programs will also allow cuts to be made along selected curves, separating an object into several parts.

Boring and Drilling

More complex and sophisticated ways of cutting into a real object include drilling, boring, milling, and punching. These sorts of operations are normally quite difficult to carry out on a computer model that is based on a 'surface mesh', as most average priced Mac programs are. Some programs do model with mathematical solids that can be fused together or cut into, according to certain logical rules. *StrataStudio Pro* for instance has a Boolean Modeller extension that blends objects together, or punches holes through them by using one object as a 'tool' to remove part of the other.

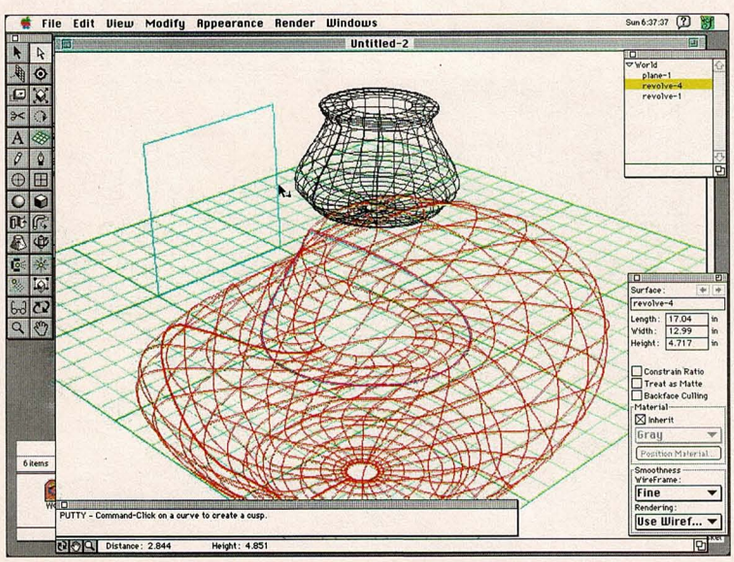
Modelling Clay, Magnet Tools...

To create really complex or organically flowing forms, it is often necessary to use materials that are really soft or flow in one state, but that can be made solid later. Examples of this are clay, resin, molten metal, and plaster-of-paris. Similar 'soft' effects are possible with most programs, but the most naturally 'putty-like' technique so far devised is NURBS (described in the Raw Materials box). As yet only *Alias Sketch* can edit its objects in this way, but as computers get more powerful, most new programs and updates will probably include this incredible tool.

Next month...

The form of an object is only part of its nature. The objects created with the tools discussed here must be covered in a textured 'skin' to create the impression of solidity and natural surface. Next month we'll be looking at Surface Texture Mapping.

Brian Larkman



The ultimate form of editing is the 'putty' tool of *Alias Sketch*. The grey object in the background is a simple lathed pot shape that was copied and pasted. The new object is in the foreground and has been drastically transformed by selecting a curve with the putty tool and dragging the surface. Don't ask what it is, I'm still practising!

Software Used

During this series, we'll be using a selection of the 3D modelling, rendering and animation programs available for the Mac. Different software may be used depending on the topics dealt with in each tutorial – although you should be able to have a crack at most things with our cover disk demo of *InfiniD*. This is one of the programs used this issue, along with *Alias Sketch 2.0*, *StrataStudio Pro*, and *RayDream Designer 3.0*. For details on how to get hold of any of the other programs, see the box below.

Where to get them

- *Alias Sketch 2.0* **Price: £399. For more details contact Gomark on 0171 731 7930.**
- *RayDream Designer 3.1* **Price: £323.13 (discounts for multiple purchases or education). Contact Principal on 0181 813 5656.**
- **Specular *InfiniD* Price: £572.23. For more details contact Gomark on 0171 731 7930.**
- *StrataStudio Pro* **Price: £1,194.98. For more details contact Gomark on 0171 731 7930.**

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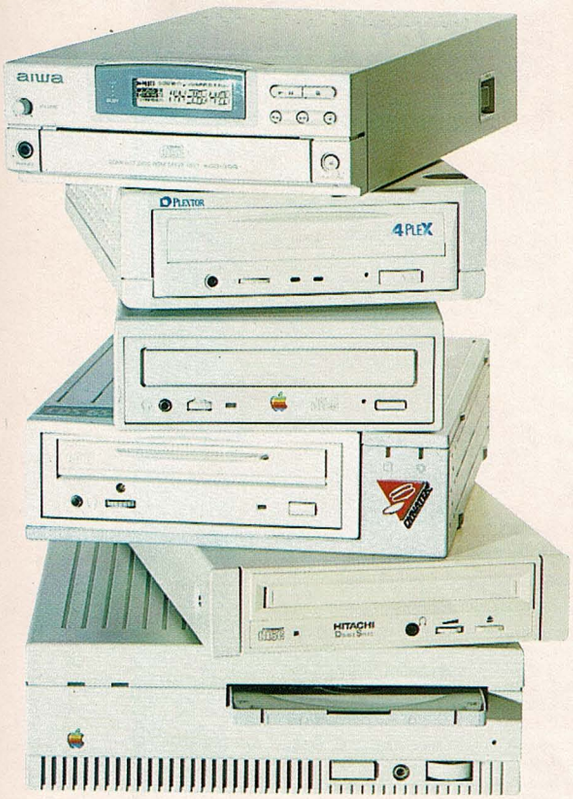


Drive a

There's more to a CD-ROM drive than getting 650Mb of data off a disc. Andy Storer weighs up which little grey box is the best buy...

Looking through the pictures of the CD-ROM drives gracing these four pages, you might be forgiven for thinking that they all seem... rather similar. They all look the same, and they do the same thing – that is, they run CD software when you want, and play audio CDs in the background the rest of the time. These days all drives come with audio connectors, although they don't have speakers, so you will have to hook them up to your hi-fi or indeed headphones for that fuller audio experience.

The external drives reviewed here simply connect to your Mac via a SCSI lead. Some drives are designed to be fitted inside the machine (see the 'Need for Speed' box on page 50). You load the driver software into your Extensions Folder, slip a disk into the caddy, and you're away. And this is where the crunch comes: when you're up and running you start to see differences other than price.

Glancing through the test results in this round-up, you will see that Apple's heavily-discounted CD150 lags behind the others alarmingly. This is because it's an older mechanism that is only capable of transferring data at

AIWA ACD-300

A well-built, stylish looking drive. With its fascia (outer panel) control buttons and LCD track display, it doubles up as a stand-alone audio CD player. It's irritatingly noisy while accessing data, but with a 275 millisecond seek time and 256K data buffer, it is fast. It comes with a SCSI-2 interface for those Macs capable of gaining the added performance advantage. On the test Mac, with only a standard SCSI interface, test results were disappointing.

Price: £233.83.
Contact: Aiwa on 0181 897 7000.

Performance	80%
Value for money	85%
MACFORMAT RATING	84%

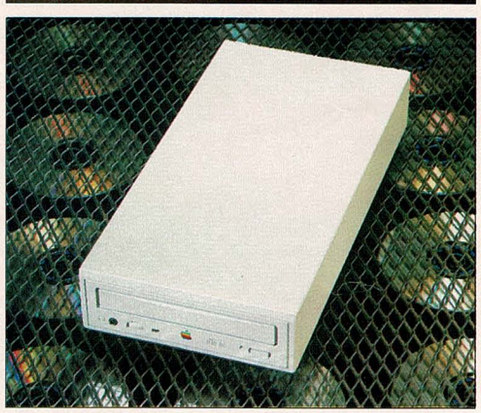
APPLE CD150

Bulky and ugly, Apple's first CD drive is now showing its age in more ways than one. The CD150 just doesn't stand up against any of the competition: it's way too slooooooooow, making it useless for almost all games and multimedia applications. On the plus side, it's pretty quiet in operation and makes a good playback engine for audio CDs, thanks to its built-in audio connectors and headphone socket. But otherwise it's not worth buying.

Price: expect to pay no more than £100.
Contact: widely available via mail order.

Performance	50%
Value for money	60%
MACFORMAT RATING	55%

APPLE CD300E PLUS



Relatively compact and with no frills, the CD300e Plus gets the job done. It's the fastest of the double-speed drives we tested. The unit is well-built and the drive mechanism within has proved its reliability over the past two years. The built-in tray loader is a boon as you don't need the hassle of a caddy, and since it's Apple's own preferred drive there are no software driver problems here. Shop around and make sure you get a bargain.

Price: £233.83.
Contact: Apple on 0800 127753.

Performance	85%
Value for money	90%
MACFORMAT RATING	88%

hard bargain

up to 150K per second (single-speed) – much less than the 300Kps rates (double-speed) of the CD300e Plus, Aiwa ACD-300 and Hitachi 1950S. And the DynaTek and 4Plex are faster still, offering 600Kps transfer rates (quad speed). Of course, the faster you get, the more money you have to spend. So how much more is it really worth paying?

There's one simple rule to follow in buying any computer or peripheral: buy the best you can afford, but buy when the time is right. With newer quad-speed drives arriving on the market, more and more double-speed drives are being discounted at attractive rates. Here's a tip: a real bargain is Apple's CD300, a unit identical to its successor, the CD300e Plus, apart from the absence of a built-in caddy and some minor cosmetics. It features the same engine inside and offers identical performance. If you can still get hold of one, they are being sold off very cheaply.

Transfer rates are one thing, access times are another. For instance, you may only need a drive to play the occasional game and browse MACFORMAT's cover CD discs. In this case, you needn't worry too much about transfer or access as long as you buy a double-speed device. But if you want to get into all the latest Mac games, or perhaps use your CD-ROM drive for importing PhotoCD images into a paint or DTP package, then you'll need to buy the fastest drive you can – one that accesses data on the CD as fast as possible, and can then transfer it into memory pretty smartish too.

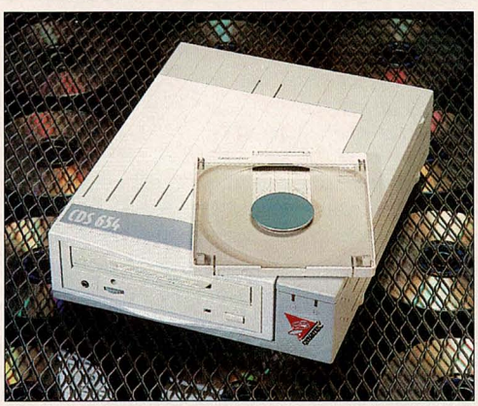
PhotoCDs are special types of CD-ROMs commonly use a gold-plated disc. Normally, once a CD has been pressed, no more data can be added to it. PhotoCDs are multi-session. This means that more data can be added at a later date. In practice, this means you can take your CD along to Boots with your camera film containing your

WIN
A quad speed CD-ROM drive – see page 130

JARGON BUSTERS

Driver: a software Extension which goes into the System Folder and enables your Mac to talk to the CD-ROM drive.
SCSI-2: a new standard for SCSI devices which improves data transfer rates. SCSI-2 is built into the Quadra 840AV and all PowerMacs, enabling them to take advantage of SCSI-2 devices. Other Macs will work fine with SCSI-2 devices, but at normal speeds.

DYNATEK CDS 654T

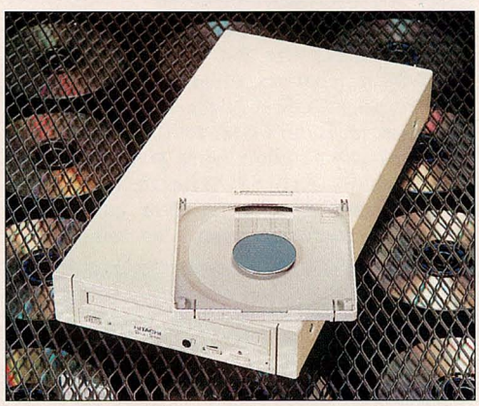


A no-nonsense quad-speed drive offering no frills other than its fast 155 millisecond access time and 600Kps transfer rate. Like the Aiwa, the DynaTek is supported by a SCSI-2 interface. The usual headphone socket and volume control (with rear-mounted audio sockets) are the only distinguishing features on an otherwise plain grey box. Performance-wise it was the fastest of the lot, but it seems rather expensive when compared to Toshiba's quad-speed drives.

Price: £586.
Contact: DynaTek on 01256 331111.

Performance	93%
Value for money	75%
MACFORMAT RATING	84%

HITACHI CDR 1950



The Hitachi's undistinguished plain grey box houses a drive of average performance. It does the job and that's it. But despite this, the drive comes at a rather premium price. On the plus side it's very quiet in operation. On the minus side you have to make sure you get the required drivers, which should be bundled with it. The review model didn't have them supplied and generic drivers – perhaps slower ones – had to be used instead.

Price: £340.
Contact: Hitachi on 0181 849 2000.

Performance	82%
Value for money	76%
MACFORMAT RATING	79%

TEKDATA 4PLEX

A quad-speed drive, the Tekdata 4Plex claims a massive 1Mb of built-in buffering, plus fast 150 millisecond access times and 615Kps transfer rates. Design-wise the unit is nothing special, but it's very quiet in operation. The model tested was disappointing, though, because the supplied software driver didn't support automounting of inserted disks, and the drive didn't have SCSI-2. Access times were fast, but throughput was slower than anticipated.

Price: £558.
Contact: Tekdata on 01782 577677.

Performance	90%
Value for money	75%
MACFORMAT RATING	83%

THE MULTIPURPOSE POWERCD

In MACFORMAT 4 we reviewed Apple's PowerCD. You can now buy one for around £180. And a PowerCD offers some additional benefits. It's portable, weighing only 3lb, and runs off eight AA batteries. You can use it with a PowerBook, although you'll only get about three hours out of it at a time.

Second, unlike the desktop units featured here, you don't need a Mac to use it to play audio CDs. You can hook it up to your hi-fi and use its infra-red remote to program preferred track orders for storage in its built-in memory. What's more, it produces good sound playback performance (though it wouldn't impress a hardened audio buff). You can even use it as an audio DiscMan.

You can also connect it to a TV to view Kodak PhotoCD images, and use the remote to pan, scroll, zoom in on, and rotate images. You can enlarge specific areas, and program sequences of your favourite pics for automatic slide-shows. The results are fine as long as you have a decent telly.

The PowerCD wins the competition for aesthetics by taking the bold step of not actually looking like a shoe box.

Of course, you can use it as a CD-ROM drive as well. Its seek times and transfer rates, while significantly better than those of a CD150, are not up to those of a double-speed drive. Compared to the CD300 Plus, PowerCD is quoted by Apple as being 40% slower at seeking computer data on CD and 15% slower at transferring it.

So if money is tight and you want the benefits of portability and the added value of a drive that doubles up as a stand-alone hi-fi component, then it may well be worth buying. It looks pretty cool on trains too.

latest family holiday snaps. Boots then processes the film, scans the images, then saves them onto your disc. Not all drives can access these multi-session discs, so if you want this facility, make sure you check that a drive is compatible before you buy it.

Don't assume that needing a fast drive means that you *have* to buy a quad-speed drive. For optimum performance quad-speed drives require Macs with powerful processors, ones that are fast enough to allocate a larger percentage of their CPU processing-time to pulling data off the CD-ROM.

You can overcome slow access times to some extent by purchasing disk caching software like FWB's *CD-ROM Toolkit* (RRP c.£80, NuSys, tel: 01379 649200). But there's no getting around slow transfer rates. A double-speed drive is a must, and even then caching software will greatly improve its performance, especially on slower Macs. Caching utilities can work in a couple of ways. They start by allocating a portion of your Mac's RAM for their own use. The software can maintain a temporary directory of a CD's contents. Once this file table is resident in memory, subsequent seeks and reads of the data on CD take place much faster, speeding up low-level operations by as much as 300%. Another technique involves the software guessing what will be needed off the CD next, and loading that data into the set-aside RAM. If your Mac does need this data, it can be loaded from RAM at high speed. If your Mac doesn't need the data, then the effort was wasted.

Another software product, claiming even better speed improvements, is *CD AutoCache* from CharisMac Engineering in the US. We will be testing it in a future issue, but if you're keen to get hold of a copy and speed up your drive, they can be contacted on 001 916 885 4420.

Finally, make sure that when you buy a CD-ROM drive it comes supplied with software. This should include a driver and, most important of all, an audio CD player (to enable you to listen to Barry Manilow when you are working on a database). As the SCSI interface is now becoming more popular on IBM compatibles, many manufacturers claim Mac compatibility for their drives. And with the fiercely competitive prices of the PC market you can pick up some real bargains. But because you will probably keep your CD drive a long time before upgrading it, it is important to take your time and get the right drive at the right price.

The best choice?

The obvious thing that jumps out from the test results is that you shouldn't touch a CD 150 with a barge pole. You may well be able to pick one up for £99, but you'll regret it – unless you can afford the luxury of using it only as an audio CD player. Not only is it slow and ugly, but it is also not compatible with multi-session discs, so no PhotoCD. Otherwise, Apple's CD300e Plus has the edge over the other double-speed drives and the DynaTek unit wins out in the quad-speed stakes.

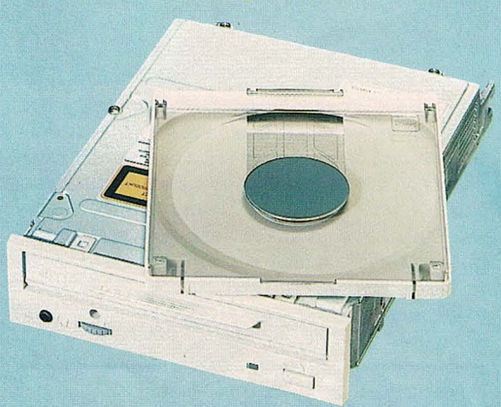
Is it worth paying more for a quad-speed drive? Comparing the copying and search times of the test results of the CD300e and DynaTek for a moment, you'll see that the latter offered

THE NEED FOR SPEED, THE PACE FOR SPACE

Some drives are available as both external and internal devices. With internal drives being about £80 cheaper, don't ignore them. They are cheaper because they don't need a case, SCSI cable, or power supply. So if your Mac can take one, it makes good finanacial sense and is neater than havng a box sat next to your computer with yet another trailing power cable to strangle the dog.

Most modern Macs that come in a case larger than an LC can take an internal CD-ROM. These have a blank removable panel in the front.

We installed a Toshiba XM3501B drive into a PowerMac 6100 with 16Mb of RAM. Installation is simple, but if you're the nervous type, you would be well advised to ask a dealer to do this for you. When you open your Mac, you'll need to remove the blank panel at the front of the machine. Slide the drive into the hole. Inside you will find a wide flat cable connecting the hard drive to the mother board. Half way along this cable is a spare connector that plugs into the back of the CD. Coming out of the power supply is a spare power lead that will also plug into the drive. The tricky bit comes next...



The Toshiba XM3501B CD-ROM drive raced along at a great speed once fitted inside a PowerMac.

With the Toshiba drive, several jump pins need to be altered and a couple of terminators removed. The manual will explain all. But be careful, you may need all those extra little bits one day!

Once this is completed, replace the casing and install the driver software. You are now ready to use your CD-ROM.

The speed we got from the Toshiba was impressive. The PowerMac's fast processor is able to keep up with the drive working at full speed, so this is about as fast as CD-ROM drives can operate at present.

The time taken for a CD icon to appear on the Desktop was about the same as a double-speed drive, but the time needed to copy large numbers of files was instantly halved.

Your purchasing desicion comes down to money. It's around twice the price of Apple's CD300 and works at twice the speed. If you have the dosh, then future proof yourself and spend for speed.

- Price: RRP c. £360.
- Contact: Koch Media on 01252 714340.

a performance improvement of around 15%. But when it comes to loading times, the quad-speed DynaTek is only 25% faster.

The reason for this is down to the relatively slow LC475 used as the test Mac. Quad-speed drives need a greater percentage of the CPU's time in order to sustain the 600Kps transfer rates they're capable of achieving. So the faster the Mac, the less challenged it will be by its System 7 and Finder workload – and the more performance it will be able to squeeze from the quad-speed drives. In other words, those 600Kps transfer rates demand the full attention of your CPU. If the processor isn't up to it, then all you'll get is lower sustainable rates. Quad-speed drives only come into their own when used with faster Macs (see the 'Need for Speed' box on page 50).

By contrast, double-speed drives don't require so much CPU time, and their transfer rates drop off more slowly if the CPU is engaged in other work. Little current software is designed to specifically take advantage of quad-speed transfer rates, but it's only a matter of time – some top end games, such as *Rebel Assault*, strained to work on a double-speed drive. With the arrival of the Pippin games machine (see the news story on page 17), things should change. Perhaps the main justification for getting a quad-speed now would be if you had a fast Mac or PowerMac and needed regular access to PhotoCD images residing on disc.

So, taking these factors into account, the best buy is currently the Apple CD300e Plus. To future proof yourself, go for a quad-speed; both the Toshiba XM3501 and DynaTek CDS 654 are very good. *Andy Storer & Derek Smith*

Other CD-ROM drives to look at...

There are many other CD-ROM drives for the Mac avaiable, but we were unable to obtain them all in time for this test. The best way to get more information on the drives listed here is through a combination of phoning the distributors and quizzing your local dealer to see what he thinks. If you're lucky, he might let you try your own quick tests in the shop!

d2 DCDP4-X2M
- Quad-speed CD-ROM drive.
- **Price: £693.25**
- **Contact: d2 Electronique on 0171 833 0009**

d2 DCDS2-X2M
- 2.4 speed CD-ROM drive.
- **Price: £329**
- **Contact: d2 Electronique on 0171 833 0009**

Hitachi CDR1950S
- Double-speed caddy-loading CD-ROM drive.
- **Price: £199.75**
- **Contact: Hitachi New Media 0181 849 2000**

NEC MultiSpin 3Xe
- Triple-speed CD-ROM drive with SCSI-2 interface.
- **Price: £562.83 RRP (but shop around)**
- **Contact: NEC 0181 993 8111**

Pioneer DRM-602X
- Double-speed CD-ROM drive with six disc autochanger.
- **Price: RRP £645**
- **Contact: Ideal Hardware 0181 390 6802**

Pioneer DRU-104X
- Quad-speed CD-ROM drive.
- **Price: RRP £417.13**
- **Contact: Ideal Hardware 0181 390 6802**

SmartCD3
- Triple-speed CD-ROM drive.
- Price: £446.50
- **Contact: Kingswell Computer Products 01604 791929**

SmartCD4
- Quad-speed CD-ROM drive.
- Price: £564
- **Contact: Kingswell Computer Products 01604 791929**

Toshiba XM5201B
- 3.4 speed CD-ROM drive with tray-loading mechanism.
- **Price: RRP £233.83**
- **Contact: Ideal Hardware 0181 390 6802**

Toshiba XM3501S
- External quad-speed CD-ROM drive with SCSI-2 interface.
- **Price: RRP c. £440 (shop around)**
- **Contact: Koch Media 01252 714340**

So how did the drives compare?

I conducted six separate tests on the six models featured here, all using a Mac LC475 running System 7.1 with 8Mb of RAM. I mention the amount of memory my Mac has here because allocating a portion of RAM to act as a cache can significantly improve access times – the AIWA unit even comes with its own caching software. But for the purposes of this group-test I didn't use any caching software.

The first two tests speak for themselves: the time it took MACFORMAT 20's cover disc to appear on the Desktop and display the contents of its top-level folder in the Finder – a good test as the custom icons used on our CD-ROM take a while to appear. The test application I used was Microsoft's *Musical Instruments*, a typical CD-ROM title. Since most people buy CD drives to run reference and leisure software, the waiting involved in loading times has to be the most significant factor.

The copying tests again used the MACFORMAT 20 cover disc to assess each drive's performance in writing data to hard disk. This is a fairly typical and common task, particularly when it comes to the MACFORMAT cover discs!

Finally, the Mac's built-in file **Find** menu option was used to search for a non-existent file on the same cover disc. This ensures that the entire directory on the disk is read, and this test is therefore a good indication of the time it takes to seek data on the CD drive – another significant factor.

These tests are intended to provide a real world approach to benchmarking, and should be of more use than quoting access and transfer rates supplied by manufacturers.

CD-ROM Drive	Aiwa ACD-300	CD150	CD300e Plus	DynaTek CDS 654T	Hitachi CDR 1950	Tekdata 4Plex
CD appears	9 secs	11 secs	9 secs	7 secs	n/a*	n/a*
CD displays directory	12 secs	18 secs	10 secs	5 secs	11 secs	7 secs
CD loads application	20 secs	85 secs	15 secs	11 secs	16 secs	12 secs
copy 2.5Mb file to hard disk	15 secs	87 secs	15 secs	13 secs	17 secs	16 secs
copy 10Mb folder containing 60 items	82 secs	250 secs	83 secs	70 secs	88 secs	86 secs
search entire directory	9 secs	56 secs	6 secs	5 secs	8 secs	6 secs
headphone socket	yes	yes	yes	yes	yes	yes
CD audio	yes	yes	yes	yes	yes	yes
size w x h x d (cm)	17.5 x 5.2 x 29.5	24.5 x 7.8 x 26.6	15.8 x 5.4 x 31	21 x 6 x 27	17.7 x 4.3 x 34	17.6 x 5.6 x 30.3
vol control	yes	yes	yes	yes	yes	yes
built in caddy	no	no	yes	no	no	no

* the supplied driver did not support auto-mounting

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See my movie!
Saturn: The 6th planet outward from the sun.
The rings of saturn were first seen by Galileo, using his telescope. Later, the rings seemed to disappear when Saturn moved so that the rings were tilted so that they were edge-on to
art
I like cats and sometimes I even wish I was a cat.
I painted this picture using the BrushStrokes painting program and I scanned in a photo of my face from home and pasted it on to the cat.
'Cat Mad' by Josie Powell
Product info
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Professor Multimedia

Multimedia... How do they do that? Find out what it's all about with this explanatory CD-ROM.

Everyone has to start somewhere, and you might well be one of the many new Mac owners wondering what this multimedia stuff is all about. *Professor Multimedia* aims to fill in the gaps in your knowledge with an introduction to CD-ROM – how it works and how to make the most of it.

The disc contains a slide-show that you can watch and interact with. It takes you through the introductory stages of multimedia – how animation and sound work on your Mac. The design is a little crude, but the content is generally clear and useful for Mac beginners. But there are times when unexplained jargon leaps out at you from nowhere.

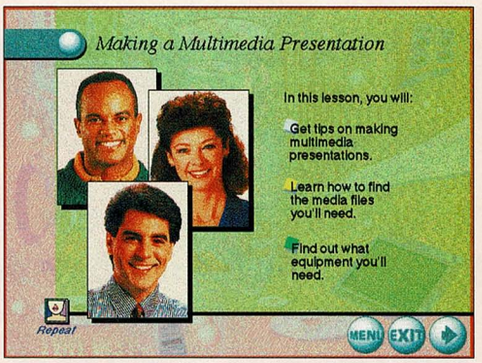
Some sections contain interactive demos of how something works, while elsewhere you'll find snap quizzes to make sure you're paying attention. You'll also see how multimedia is used at home and in business. Again, the information is well-pitched at starters, so if you've been around the bases a few times you're likely to find these sections pretty dull.

But the demos will be of interest to everyone. When you've read about how multimedia is made, you can see it in action. There are glimpses of games such as *Myst* and *Labyrinth Of Time*, and a strong selection of education, including Dorling Kindersley's *The Way Things Work* and *Arthur's Teacher Trouble* from the Living Books series. The game demos are limited to a narrator explaining the plot to you as you watch some pictures, but the education ones are interactive, so you can try them yourself.

While *Professor Multimedia* isn't nearly as glossy as some CD-ROMs, it's a worthwhile starting point if you're finding life with your Mac too confusing for words. It's a shame it costs so much in Britain, though. The program's publisher, Individual Software, estimates the price of the program in American shops to be $29.95 (about £18.70), so quite why you should have to pay £50 for it over here is beyond me – and it means the program probably won't be seen by the people who should see it.

Richard Hill

The low point of the disc is a quick glimpse at a dreadful karaoke program. SingalongaMac?


Making a Multimedia Presentation
In this lesson, you will:
Get tips on making multimedia presentations.
Learn how to find the media files you'll need.
Find out what equipment you'll need.
Repeat
MENU
EXIT

Professor Multimedia is aimed at a wider public than the typical Mac buff, explaining the basics of multimedia.

- **Price: £49.95. Out: now.**
- **Requires: Mac IIsi or better, 8Mb of RAM, System 7, a colour monitor and a CD-ROM drive.**
- **For more details contact Gem Distribution on 01279 412441.**

MACFORMAT RATING **57%**

The Songs of Distant Earth

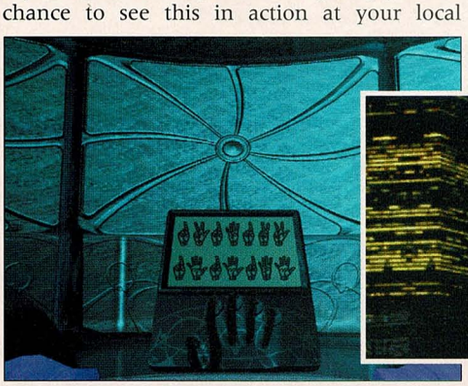
A space odyssey from Mike Oldfield welcomes newcomers to the world of CD-ROM.

Lately, some people have been introduced to multimedia through musician Mike Oldfield's new album, *The Songs Of Distant Earth*. There's a limited edition of the CD that's part CD-ROM, so you can play the album on your hi-fi or go interactive with Oldfield on your Mac. Apple is joining in with a promotion, giving you the chance to see this in action at your local AppleCentre; you could even win a Mac.

The CD-ROM segment is basically a brief movie that plays alongside images that Oldfield derived from the same science-fiction themes he drew on from for the album. You fly into a spaceship and ultimately arrive in a chamber. Here you have to enter the code – a familiar musical refrain – into a console to access treats like Oldfield playing a track or acting the part of a hibernating traveller.

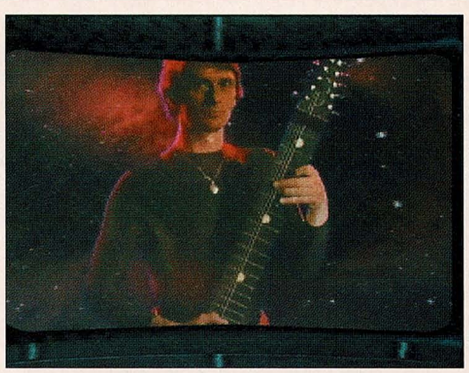
In some respects, *The Songs Of Distant Earth* epitomises the worst aspects of CD-ROM, with its victory of style over content, because it takes a long time for nothing of any consequence to happen. It needs the most powerful Mac to work. But its intention is simply to provide a taste of what the Mac can do, and it does this with panache. While you needn't rush out to buy this CD, many who see it will be encouraged to look further at CD-ROM.

Richard Hill



Within a chamber you'll find this console – solve the puzzle and enter a famous musical access code.

Your journey begins with a flight through this futuristic city, lit by spotlights.



If you crack the riddle you can watch and listen while Mike Oldfield plays a preview from the album, just for you.

- **Price: between £11.99 and £14.99 (normal audio CD prices) Out: now.**
- **Requires: a Mac capable of showing thousands of colours, 8Mb of RAM, System 7.0.1 or later, and a double-speed CD-ROM drive.**
- **For more details contact WEA Records on 0181 997 7571.**

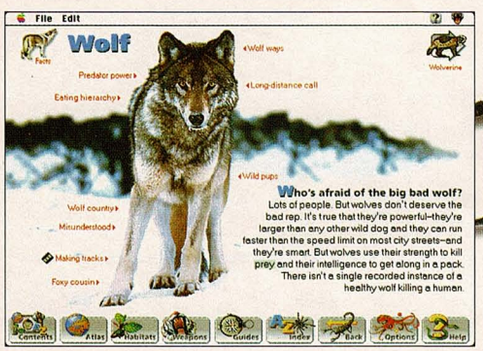
MACFORMAT RATING **64%**

Dangerous Creatures

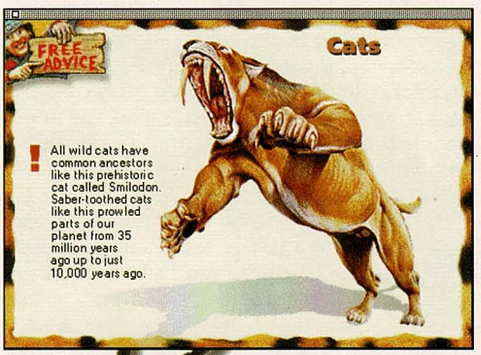
Learn all about nature 'red in tooth and claw' in this wonderful wildlife documentary CD-ROM.

Research suggests that CD-ROM is striking a chord with people who previously had shied away from buying a computer. Some clues as to why this might be can perhaps be found in this latest release from Microsoft.

As with many Microsoft CD-ROMs, *Dangerous Creatures* is clearly an 'edutainment' product, straddling the twin spires of entertainment and education with huge confidence. The result is something with the mass appeal of, say, a David Attenborough documentary. When it comes to persuading reluctant children to educate themselves, *Creatures* is positively insidious.

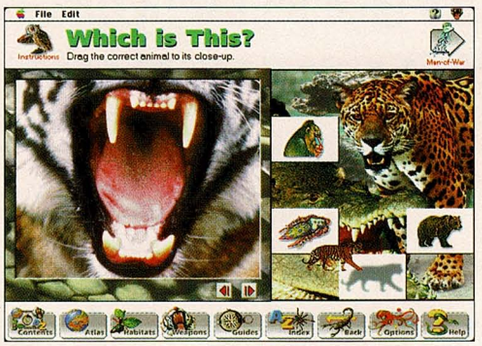

File Edit
Wolf
Facts
Wolf ways
Predator power
Eating hierarchy
Long-distance call
Wolverine
Wild pups
Who's afraid of the big bad wolf?
Lots of people. But wolves don't deserve the bad rep. It's true that they're powerful–they're larger than any other wild dog and they can run faster than the speed limit on most city streets–and they're smart. But wolves use their strength to kill prey and their intelligence to get along in a pack. There isn't a single recorded instance of a healthy wolf killing a human.
Wolf country
Misunderstood
Making tracks
Foxy cousin
Contents
Atlas
Habitats
Weapons
Guides
Index
Back
Options
Help

Dangerous Creatures introduces you to the wild animals with style. I know what Prokofiev would have you believe about wolves (see *Peter and the Wolf*, page 78), but it's not true.


FREE ADVICE
Cats
All wild cats have common ancestors like this prehistoric cat called Smilodon. Saber-toothed cats like this prowled parts of our planet from 35 million years ago up to just 10,000 years ago.

This ain't no pussycat. The standard of illustration is consistently high, and it blends together with text and video seamlessly.

Every kilobyte of the material is geared toward making *Dangerous Creatures* as accessible and inviting as possible. The choice of subject – the predators of the animal kingdom – is one any television producer would have been proud to come up with. The information is arranged into screens of text, photos and videos that blend together seamlessly.



When you've done some exploring, try one of the quizzes, where you have match the close-ups to the animals. Tricky, this one. It's not a view you'd see more than once, really.

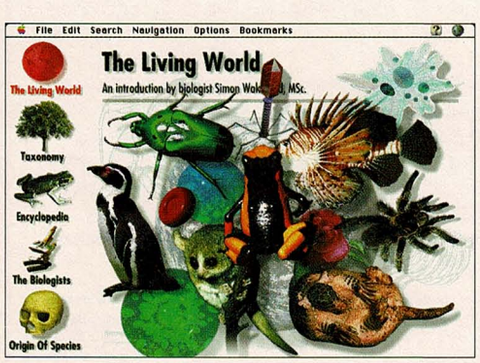
The strength of the program lies in its presentation: the way it enables you to view the material by following any number of routes. Want to see the animals that live in a particular climate? Or go on a guided tour of Africa? You've got it. There's even a sequence that shows you Australian animals and how they fit into Aboriginal mythology.

The key to the program's versatility is the row of icons along the bottom of the screen. With these you can move from one section to any other with just a couple of mouse clicks.

The guided tours are particularly slick. They are presented by a trio of fictional characters,

Dictionary of the Living

The entire world is laid at your Mac's feet with this reference guide to all things natural.



The dictionary kicks off with an introduction by a qualified biologist, which explains how scientific classification works.

Where *Dangerous Creatures* is unashamed entertainment, *The New Dictionary Of The Living World* is hard reference, a complete and thorough guide to nature for beginners. There are over 3,000 entries in the dictionary section, which covers animals and definitions of terms used in natural history.

Before you plough into all of this, though, there's an introduction that explains the use of Latin and Greek names for each creature, so you can place each animal within its appropriate group in the animal kingdom. This section, like the rest of the CD-ROM, makes it as easy as possible for you to learn.

See the rolling demo of *Dictionary of the Living World* on this month's CD-ROM.

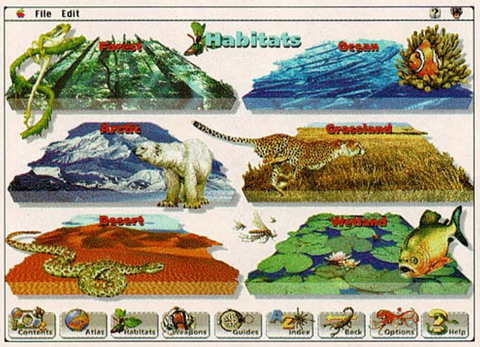
The dictionary is an absolute doddle to use. There's a search facility so you can narrow down the area in which you want to explore, or you can just scroll down the alphabetical list and choose whatever takes your fancy. Many of the entries come with a photograph or *QuickTime* movie to look at, and it's easy to move back and forth between the different areas.

It doesn't end there, though. There's a who's who of biologists who have shaped the science of natural history over the years, plus the complete text of Charles Darwin's *Origin Of Species*, the book that established the concept of evolution and natural selection.

And after so many CD-ROMs with American narrators, it comes as some relief to hear a British accent at last. The Brits are not going to be left out in the race to capture the hearts of the multimedia-buying audience.

There's a lot to *Dictionary of the Living World*. Few would be dedicated enough to read and see absolutely everything in it, but that's not the idea. This is a strong and well-informed CD-ROM, and its strength is as a reference guide – a clear, simple guide to nature and its study. *Dictionary of the Living World* is well worth having on the bookshelf, alongside all your books and videos on nature, ready to leap to your rescue when you need to look something up.

Richard Hill



Here you can click on any of the habitats to explore them further, in order to learn about the animals that live there – or use the buttons at the bottom to go somewhere else entirely.

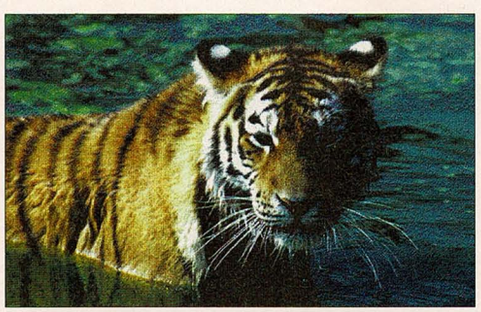
with a photographer showing you around a coral reef or explaining how male and female roles are defined in the animal kingdom. The tours add that little touch of originality to a package that generally chooses to rely on tried and tested ideas.

You can lose days of your life using this program if you're not careful. There is never a time when there isn't something happening – a new screen appearing or monkeys whooping in the background while you read the text. The silky-smooth professionalism of *Dangerous Creatures* makes it impossible not to like – wild cats won't be able to tear your kids away. *Richard Hill*

- **Price: £45. Out: now.**
- **Requires: any 256-colour Mac, 4Mb of RAM, System 7, and a CD-ROM drive.**
- **For more details contact Microsoft on 01734 270001.**

MACFORMAT RATING **89%**

World



This ain't no pussycat, either. There are plenty of good-quality photographs illustrating the common and the exotic.

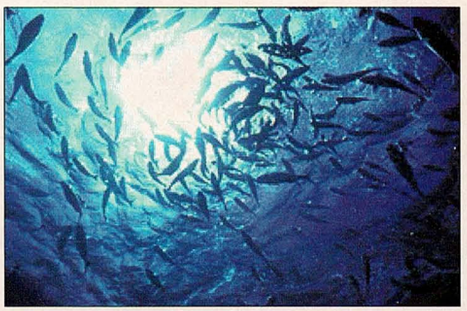
- **Price: £44.99. Out: now.**
- **Requires: any colour Mac with 4Mb of RAM, System 6.0.7 or later, a 13-inch screen and a CD-ROM drive.**
- **For more details contact MDI on 01252 737630.**

MACFORMAT RATING **82%**

Coral Reef!

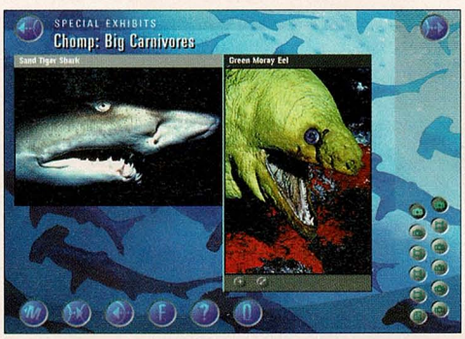
The Vanishing Undersea World

Get your scuba gear on and dive into the multicoloured world of the coral reef...



The program has tons of great photographs and refreshing design, but it is a bit skimpy on hard facts.

Streams of colour greet you as you load up *Coral Reef!* onto your Mac's screen. Whatever flaws this program might have, it certainly does look spectacular. *Coral Reef!* enables you to explore the nooks and crannies of a reef, as well as touching upon some of the issues raised by



The information is arranged in the style of a natural history museum, with exhibits showing you areas of interest.

man's presence in the underwater world.

The program makes extensive use of illustration for menu screens and backgrounds, giving it a distinctive and personable feel. The main menu is a watercolour painting, displaying a flurry of activity around a reef. Some explorations reveal bubbles that take you to various sections.

The sections – or exhibits, as the programmers refer to them – are arranged in a uniform fashion to make them easier for you to use, although there are some idiosyncrasies that take a little getting used to. As you enter an exhibit, a voice-over introduces you to the topic covered. From here, you're free to explore the exhibit in any order you please. To do this you use a set of buttons down one side to reveal photos, videos or text.

The range of subjects covered here – from simple exploration to ecological issues – makes you wish the voice-over would enter into a given topic in more depth. Moving down the procession of photos, accompanied only by terse captions, you begin to feel all at sea. Some more explanation of how the creatures you're seeing fit into the life of the reef would be welcome.

There are guided tours, but the programmers have chosen a strange approach. As with many tours on other CD-ROMs, photos from other sections are used, but the rest of the section is also loaded in each time – so you have to be prepared for a bit of a wait.

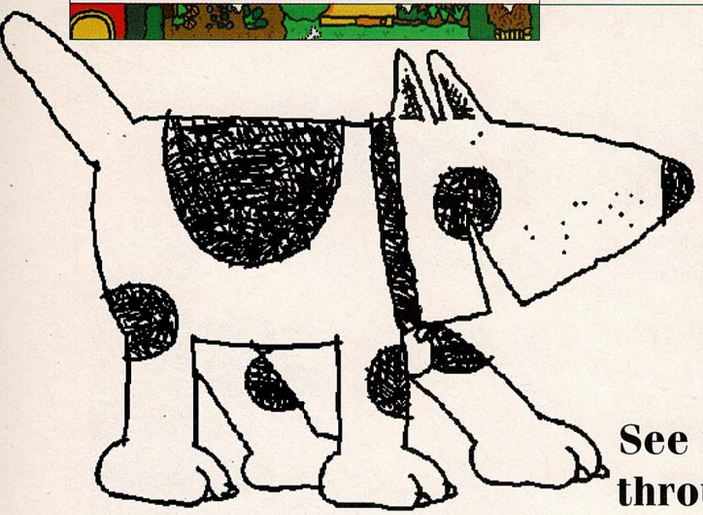
The vivid illustration and photography of *Coral Reef!* are enticing, but there are a few too many flaws in the presentation. Ultimately, you find yourself wishing for a smoother passage in deeper waters. *Richard Hill*

Coral Reef! has a highly distinctive menu screen – which makes a change from scrolling down a list.

You also have a chance to see how man is having an effect on the fragile ecology of the reef.

- **Price: £44.99. Out: mid-February.**
- **Requires: LCII or better with at least 4Mb of RAM (2.5Mb available after the System's loaded), System 7, a 13-inch monitor and a CD-ROM drive.**
- **For more details contact Maxis on 0171 490 2333.**

MACFORMAT RATING **76%**



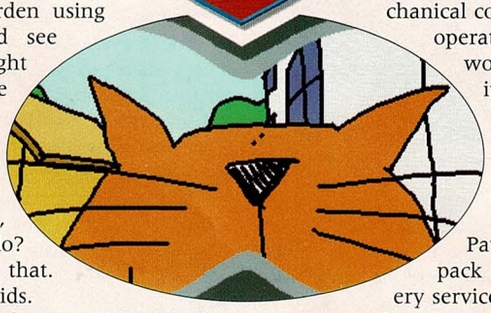
PAWS

See the wonderful world of animated cartoons through the eyes of a dog. Richard Hill sniffs out a superb CD-ROM for kids of all ages.

You've seen flight sims, you've seen city sims – you've probably even seen a god sim. But are you ready for... a dog sim? *PAWS* (Personal Automated Wagging System) enables you to see this cartoon world through the eyes of Paws the dog.

The world in which Paws lives is a small, intimate one, with a select cast of supporting characters whom you'll meet as you explore the program. *PAWS* is divided into several sections, but the main part is where you become Paws and wander out of your kennel in search of bones and adventure.

MACFORMAT Classic



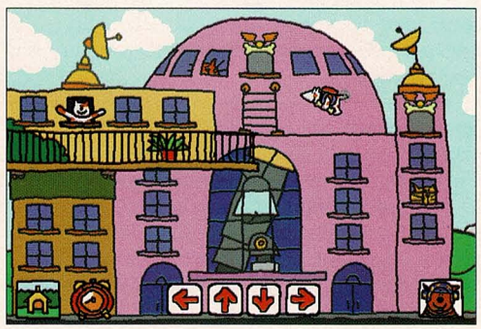
Move around the garden using the arrow buttons and see what happens. You might sniff out a nice juicy bone or encounter a cat. The controls are simple and labelled only with pictures – walk, dig, eat, sleep and bark. After all, what else does a dog do? Okay, there's that. And that. But this is a product for kids.

The garden is perhaps the most deceptive part of the program. At first, there doesn't appear to be much to keep you occupied, but after you've experimented with the controls for a while and sniffed around for a bit, you start to discover carefully concealed sequences. For example, try diving into the fish pond and see what happens – there's a bit more to certain places than originally meets the eye. There are plenty of cats to chase and bones to dig up and, more importantly, eat.

When you get too tired (as you can see by the bone-o-meter) you have to go back to the kennel for a doze. Things get a little surreal as you discover what a dog dreams about. The weirdness continues as you delve further into the program and find a section that dissects Paws to show you how he works. And, as everyone knows, dogs use mechanical contraptions to help them operate! Like the best cartoon worlds, *PAWS* follows only its own logic – the real world is absent. Try the buttons to watch the different parts of the body in action.

In a further section, Paws straps on his rocket pack and opens a bone delivery service. It's a ludicrously basic game where you have to collect a bone from one window and deliver it to another. Drop off as many as you can in the time limit. That's it – but as the success of *Space Invaders* showed, the games that are the simplest to explain are the ones you can't stop playing.

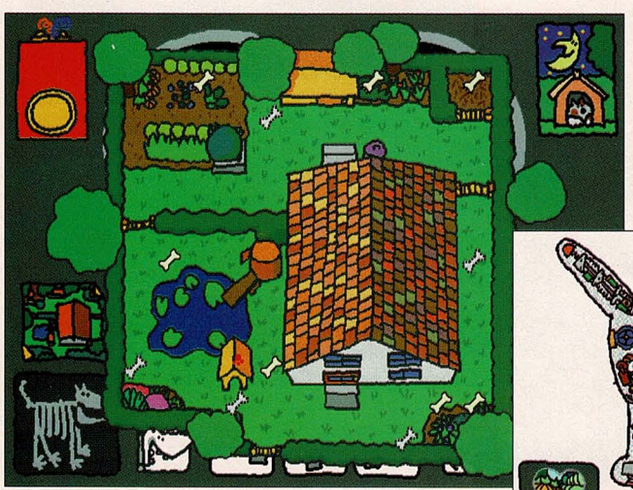
The animation, music and sound effects throughout *PAWS* are lovely – it's like a Bob Godfrey (creator of *Roobarb*) cartoon that you can control yourself. If I have one criticism of the program, it's that a little more randomness might have been somehow injected to maintain the feeling of spontaneity that you get when you first use it.



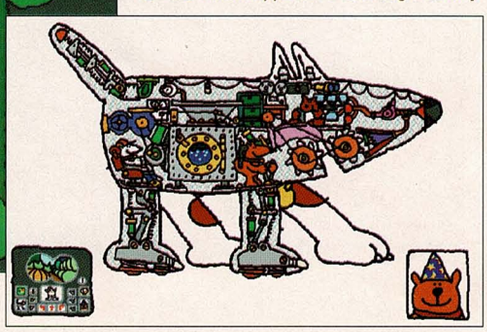
In the rocket pack game, Paws turns delivery hound and takes juicy bones from one point to another.

The program's greatest success is the way it captures the utter, charming stupidity of dogs – because let's face it, dogs may be loyal, affectionate and the rest of it, but above all, they are thick. Let's hope we get a cat sim where you destroy the furniture, lie around all day doing nothing and just know you're cleverer than any dumb human.

PAWS is supposed to be for kids, but no child's getting their hands on MACFORMAT's copy. No matter how old you are, if your sense of fun has survived the stresses of life intact, it'll bring a smile to your face. Lost in its own world, *PAWS* has all the appeal of a Dr Seuss book or a Tex Avery cartoon. *Richard Hill*



This is where Paws lives. You can use this map to see where the nearest bone is buried, and then off you go to dig it up.



The Way Dogs Work. *PAWS* gently lampoons CD-ROM encyclopedias in this section; you can see what happens inside a dog's tummy.

Price: £41.13. Out: this month.
Requires: Mac IIci or better, 8Mb of RAM, System 7, 13-inch colour monitor and a CD-ROM drive (double-speed recommended).
For more details contact Softline on 0181 401 1234.

Features A small but perfectly-formed program.	87%
Ease of use No manual required – even a dog could work it.	94%
Value for money You'll come back to it again and again for years to come.	90%
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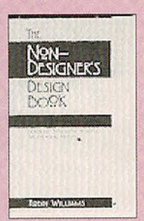

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Ephemeral Films 1931-1960

The laughable lifestyle of suburban America, captured by real adverts and information films and presented on CD-ROM. Weird.

Streamlined cars, smiling housewives on tranquilizers, robot butlers: yep, it's all things American in this curious collection of ephemera.

Between 1931 and 1960, a time when Americans feared anything Communist, American industry, education and advertising made over 600,000 short information films. And it only takes one self-styled 'media archeologist', Rick Prelinger, to see these films for what they now appear to be: revealing, often poignant and often hilarious testaments to an America that believed hard work, streamlined appliances and proper chaperones would keep the Red Peril at bay.

This CD-ROM gives you 600Mb of video footage and stills from the documentaries, TV trailers, short films and adverts of that era. The accompanying text commentary is witty and perceptive, depicting the dark side of American suburbia with more than a little dryness.

Check out the rolling demo of *Ephmeral* Films on this month's CD-ROM.

There are 38 *QuickTime* movies sitting on pastel-washed backdrops with semi-transparent cut-outs from the eras in question, alongside first-class critiques. The cumulative effect is one of sheer amazement. Clips like 'Round and Round' (capitalism for tots), 'Leave It Roll On' (the chromium-plated butler), or 'The Relaxed Wife' (tranquilizers as the antidote to reality) are a dream. Put this against gems such as 'Sniffles and Sneezes' (a day in the life of a germ) and 'Are you Popular' (nice girls don't) and you begin to get the picture.

Fortunately that picture is of a very high quality – though largely black and white, of course. In the design department a great deal of care has gone into the interplay of the videos and still-screen elements. You have the option to view the clips at a bigger size – half your Mac's screen area – and they actually stand up quite well to the enlargement.

And that's it: an elegant engine with which you can view a collection of curious advertisements for a laughable lifestyle. *Andy Storer*

YOU CAN'T GET THERE FROM HERE
Contents
Introduction
Credits
Report to Home Builders 1946 (excerpt) G.I.'s come home to a rosy future
Shy Guy 1947 (excerpts) Father knows best
Are You Popular? 1947 (excerpts) Nice girls don't
Technicolor for Industrial Films ca. 1949 (excerpts) Boost your sales with living color
Meet King Joe 1949 (excerpts) American workers have it good. You should!
Dating: Do's and Don'ts 1949 (excerpt) How to say good night
The Last Date 1950 (excerpt) Time slide. You do it with an automobile
A Date with Your Family 1950 A dark look at suburban family life
Treasures for the Making 1951 (excerpt) Still jelly is a little hard to handle
What to Do on a Date 1951 (excerpt) Weenie roast or toffy pull?
A Young Man's Fancy 1952 (excerpts) Technocreep woos family with wonders of electricity
Eisenhower for President 1952 TV campaign spot
Mother Takes a Holiday 1952 (excerpt) High school girls find emancipation in the kitchen
Sniffles and Sneezes 1953 (excerpt) A day in the life of a germ
Two-Ford Freedom 1956 (excerpt) A second car will set her free
Design for Dreaming 1956 Hollywood-style musical fantasy by G.M.
The Relaxed Wife 1957 (excerpt) Tranquilizers as the antidote to reality
American Look 1958 (excerpt) Freedom is choosing among many beautiful products
A Wonderful New World of Fords 1960 All dressed up with nowhere to go

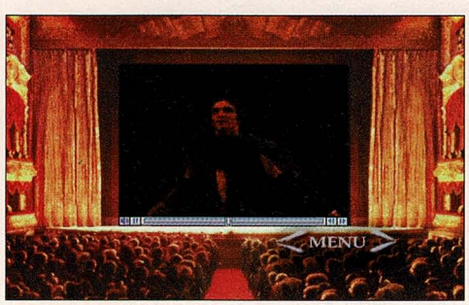
The contents of this compilation are easily accessed by clicking on these titles – but just have a look at the descriptions and you'll know what to expect.

- **Price £29.99. Out now.**
- **Requires: colour Mac, 2.5 Mb of RAM, System 6.0.7 or later, 13-inch monitor, and a double-speed CD-ROM drive.**
- **For details call Softline on 0181 401 0058.**

MACFORMAT RATING **80%**

The Bolshoi

Six classic productions from the famous Russian ballet company, complete with notes, scores, *QuickTime* clips and totally enchanting music.



The *QuickTime* footage in *The Bolshoi* suffers if you're running in 256 colours, but the quality of the captivating soundtrack more than makes up for this.

With video images and soundtracks culled from a $4 million production at the Bolshoi Ballet Theatre, Moscow, you would expect this CD to be a real cracker for ballet buffs. There is plenty to enjoy here: over 40 minutes of *QuickTime* footage and over an hour of beautiful, captivating music. But the way in which the data is organised leaves a lot to be desired. Instant access? Hardly.

In order to enjoy, say, Prokofiev's *Romeo and Juliet*, you have to click your way through dull mono screens decorated with nothing but an awful typeface, from one text display to the next. Then... finally, you reach the footage.

The benefit of this flaw in design is that you're forced to learn at least something about the history of the Bolshoi – the pieces they perform, the composers who wrote the ballets, and the symbolism of the choreography. Perhaps I'm being unfair. The quality of the productions – which include acclaimed ballets like *The Sleeping Beauty, Romeo and Juliet, The Nutcracker, Ivan the Terrible, Swan Lake* and *Spartacus* – means that they do reward serious attention. This is especially true if you can play an instrument yourself as there's a facility to print the scores of the more famous pieces.

There's a wealth of factual and historical detail here, everything from the differing interpretations of the music and movement over the years, to behind the scenes looks at the personalities and graduates of the Bolshoi. A gallery section shows photographs of the famous dancers who've appeared in various roles throughout the years, while the section devoted to the composers and their own biographies is very informative too. The quality of the soundtrack is very good as well – not quite up to audio-CD standard but if you plug your Mac into your hi-fi the result is perfectly acceptable stereo.

It's just that it all adds up to being something that's a little sterile. For instance, it would be better if there were some voice-over narration to the choreography; or on-screen animation of the score as the music plays through your speakers; or montages of good quality photographs of the leading dancers going through their paces; or perhaps even

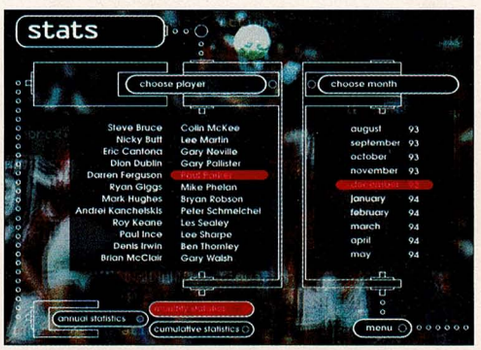
Manchester United Interactive

Every programme-collecting, scarf-waving Man U fan's multimedia dream – the Red Devils on CD-ROM. Andy Storer yells, 'Oo-Ah, Cantona'...

The Player Portraits section includes profiles of the 14 footballers who achieved the double, complete with video footage and in-depth statistical details on their performances.

This is a must-buy for every Mac-owning MUFC fan. It brings together a wealth of facts, photos, video clips and sounds of the Champions' progress throughout the '93/'94 season. Organised around a series of main menus – Season Reviews, Player Portraits, Statistics, Champions Info and United Superstore – *Manchester United Interactive* is definitely a product of Manchester United plc rather than its supporters club.

The Season Reviews include match list statistics on every game that the team played. You get copious details on the team line up, match reviews and newspaper clippings, plus the kind of details the anorak-wearing supporter would die for – like the number of shots Cantona had from more than 30 yards in the first 15 minutes against Arsenal at home. Get the picture? You certainly do here, lots of them in fact. Plus a load of video-clip goal action, which curiously omits the opposition's goals.



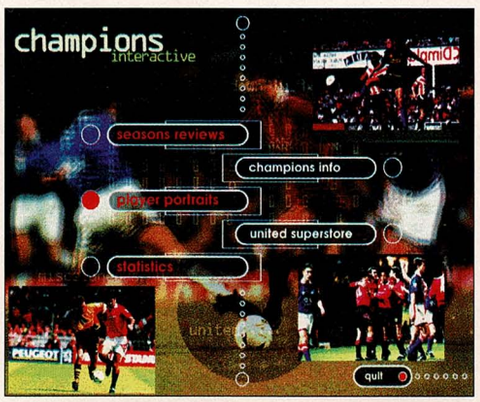
You can access a player's performance statistics for any month in the season, and then flick to the matches in question and watch the decisive goals via *QuickTime* movies.

The action is firmly centred on every conceivable aspect of United's performance and personalities, right down to players' favourite foods and films. But there's also information about the league as a whole during the season; this is available from a Timeline menu.

Throw in a player quiz, quotes, and a random loop, which plays automatically if you leave the menu screen for more than 30 seconds without moving your mouse, and you have more facts at your fingertips than any other medium could deliver.

So it's a pity that the interface takes a bit of getting used to. It's not particularly clear where you should be clicking at any one time since there's a discernible lag between moving your mouse and the system responding. Also, the video clips only show up well in thousands of colours – in 256-colour mode they look distinctly ropey and jerky.

But these gripes aside, it's a great record of the season in which MUFC did the double. If you're an avid Man U fan then you'll probably be dashing out to buy it already – and you won't be disappointed. *Andy Storer*



There's everything here that any Red Devils fan could hope for – including a superstore where you can buy all the team paraphernalia at discount rates!

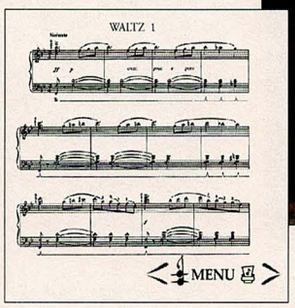
- **Price: £34.99. Out: now.**
- **Requires: any 256-colour Mac, 4Mb of free RAM, System 7.0.1 or later, *QuickTime* and a CD-ROM drive.**
- **For more details contact VCI Software on 01923 255558.**

MACFORMAT RATING 81%

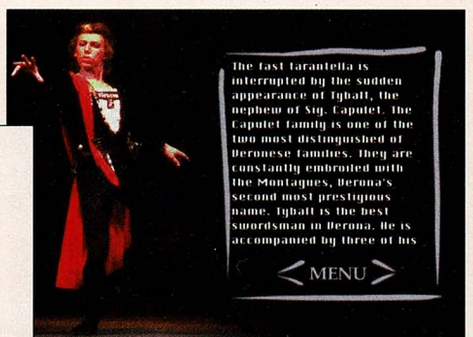
some footage of the choreographers rehearsing with the Bolshoi's best. But no. Presumably this is because there wouldn't have been enough space on the CD-ROM. But if that is true, why didn't they leave out *Ivan the Terrible* and *Spartacus* and provide more detail and dynamism for the more well known ballets? It's a shame, because the facility to print out the scores makes this a potentially useful addition for any lover of classical music. *Andy Storer*

- **Price £49.99 Out: now**
- **Requires: colour Mac, 2Mb of RAM, System 7 or later, and a CD-ROM drive.**
- **For more details contact CD Vision on 0171 240 7764.**

MACFORMAT RATING 69%



The addition of the scores to some of the better-known pieces from each of the six ballets is a good inclusion. You can even print out the contents. It's a pity though that the scores don't update automatically as the music progresses; you have to turn the pages yourself!


The fast tarantella is interrupted by the sudden appearance of Tybalt, the nephew of Sig. Capulet. The Capulet family is one of the two most distinguished of Veronese families. They are constantly embroiled with the Montagues, Verona's second most prestigious name. Tybalt is the best swordsman in Verona. He is accompanied by three of his
MENU

The annotation throughout the disc is informative – but it looks dreadful in that typeface. And there's no quick way of getting to where you want to go.

Saturday Night Live

Top class American stand-up comedy meets *QuickTime*. Funny? Yes. But they should have got serious about the price. Andy Storer has a laugh.

This two-disc set, featuring the classic and current years of the TV show *Saturday Night Live*, is a wacky showcase of America's answer to *Monty Python's Flying Circus*. The discs are devoted to video clips, with performances from the likes of John Belushi, Dan Ackroyd, Chevy Chase, Eddy Murphy, and, from *Wayne's World* fame, Wayne and Garth, alias Mike Myers and Dana Carvey.

So it's fortunate that these are among the best quality video-clips I've seen, with convincing lip sync delivering all those brilliant one-liners that made the series so popular. Most of the material is sketches – perhaps 40 or 50 on each disc, running in quarter-screen windows, replete with audience laughter. The overall effect is a convincing reconstruction of the show's irreverent atmosphere.

Each disc is divided into six distinct areas. The first, an assortment of fake TV-adverts, sets the tone for the rest of the disc – items like 'Colon Blow' cereals, Ackroyd selling the virtues of 'Swill' mineral water, and Belushi toting chocolate doughnuts for athletes.

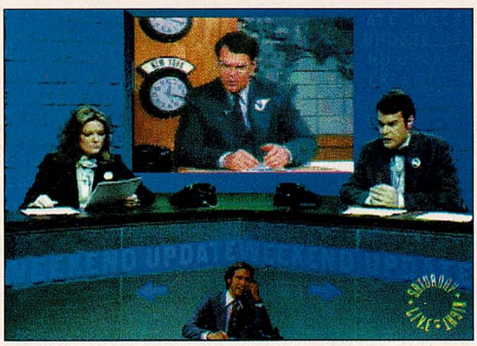
In the music booth section you're treated to extracts from live performances on the show from the likes of Cher, Aerosmith and The Blues Brothers. Then there's send-ups of the President's Question Time, with various impersonators responding to ludicrous questions from callers. A series of sketches revolving around fake news anchormen comprises the next section and introduces a little political bite to the proceedings. But the main area is the set of the show itself where you can explore 15 of the best sketches in 30 second clips. And that's about all there is to it.

The only problem is that there's just not enough to justify the price. Aside from the fact that the show has rarely been broadcast on British television, and so is unfamiliar anyway, there's not enough here to sate the appetite. Agreed, the material is very funny and varied, and the whole quality of presentation is top-notch. It's just that there's nothing here that couldn't have been delivered on videotape. Although you can click your way around the material, all you're really doing is pressing the play button on a few dozen *QuickTime* clips. So why not just watch them on a full-size television in the first place and get far more for about a quarter of the price?

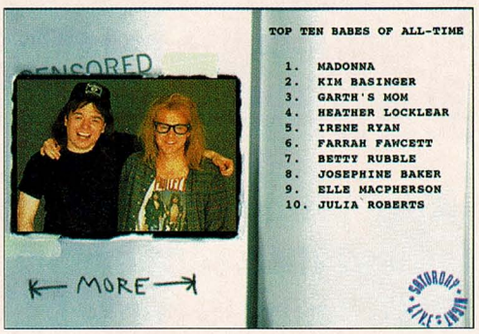
It's not as if there are any full scripts to read through or, indeed, any skits that last longer than a minute. Everything is self-evident – even in sections where there could be a great deal more interactivity, in the form of hidden objects or rooms to explore. All in all you could easily watch the entire contents of the two CD-ROMs in less than an hour. For my mind this represents poor value for money because you wouldn't want to watch them repeatedly.

I'm assured the CD has all the classic clips – Belushi's Samurai delicatessen sketch, Aerosmith playing on *Wayne's World*, Chevy Chase's Shimmer advert – it's just that not many people over here will ever have seen them. And £50 is too much to pay for nostalgia about something we were never a part of.

Andy Storer



But once you've got the hang of navigating around the two-disc-set, it's easy to view the video extracts on offer. Shame there's not more – like another 20 discs!

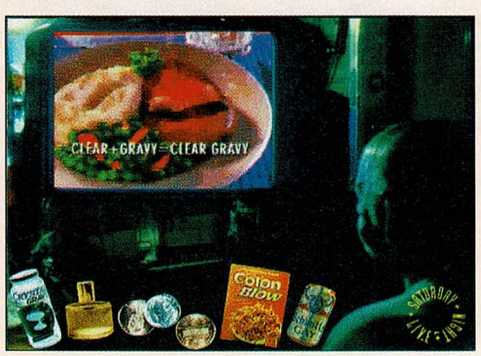


The interface to *Saturday Night Live* is good, though somewhat unconventional. It's not immediately apparent that clicking on **More** will play the *Wayne's World* clip.

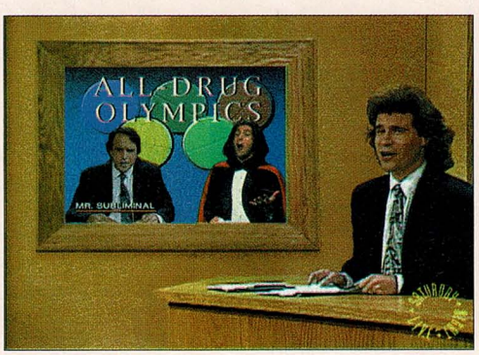
Saturday Night Live's opening screen offers a lot of promise, but once you explore any of the years that these icons represent you'll probably be disappointed...

- **Price £49.99. Out: now.**
- **Requires: LCII or better, 4Mb of RAM, System 7 or later, *QuickTime*, a 256-colour monitor, and a CD ROM drive (double-speed recommended.**
- **For details call Gametek, 01753 553445.**

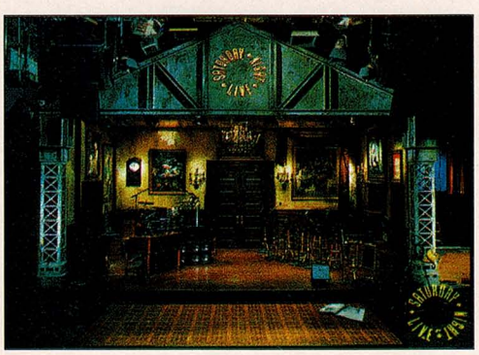
MACFORMAT RATING **59%**



For instance, here in the fake TV-advertisements section you're only able to call up five adverts – although they're all the cream of the crop and very funny.



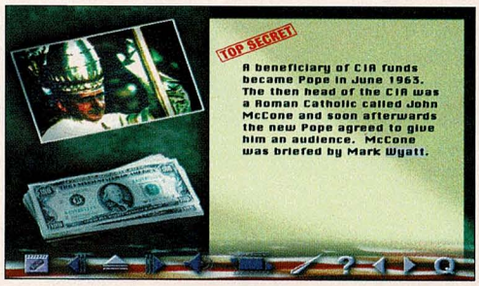
The quality of the video footage is superb. Each actor's every word synchronises perfectly with the picture. There are 40 or 50 clips on each disc, which run in quarter-screen windows.



Believe it or not, here in the empty studio set there are only five clickable objects. The book on the floor can be browsed, but you don't get the full scripts, just 30-second extracts.

CIA: The Secret Files

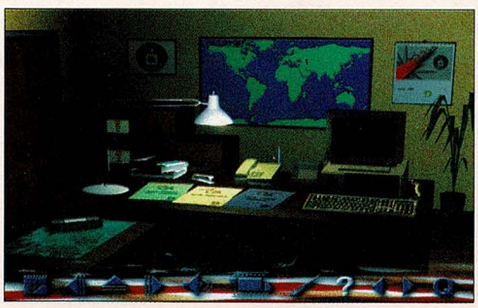
Strange sects, bizarre killings, conspiracy theories and supernatural bunkum – it's all here on CD-ROM. Andy Storer goes undercover...


TOP SECRET
A beneficiary of CIA funds became Pope in June 1963. The then head of the CIA was a Roman Catholic called John McCone and soon afterwards the new Pope agreed to give him an audience. McCone was briefed by Mark Wyatt.

Here's a typical screenshot from *CIA: the Secret Files* – this one claiming a link between the organisation and the Pope. But then he was supposedly murdered, wasn't he?

Brave men fighting a secret war so that others may enjoy freedom of choice... So begins the start-up sequence to this 'security-cleared' documentary on America's most powerful and mysterious institution. And in spite of this dubious political premise, there's plenty in this 'investigative' CD-ROM that merits serious attention.

Based on the TV series, *CIA – The Secret Files*, this disc features over 50 minutes of video footage, consisting mainly of interviews with key CIA officials, stitched together with off-the-shelf archive clips. What's more, the complete text of the TV series is included as a set of stand-alone text files in *Word* format.



In those filing cabinets are the secrets that shook the world (or at least the ones which have been released). Click on the computer screen and you may discover some more secrets.

The CD-ROM claims to portray historical and recent CIA operations and events accurately, adding the insight of personal recollection and interpretation. Of course, as with so much in the murky world of espionage, nothing is ever as it seems. So among the 500 stills and 234 *QuickTime* clips we're presented with page after page of text covering the structure and modus operandi of the CIA, plus extracts from actual files about its role in the development of the post-war world. And what an involvement it undertook! One can only guess at the material that has been left out. Files establishing links between the CIA and Pope Paul are hot enough, let alone links with the Red Brigades terrorists in Italy during the '80s.

This is a conspiracy theorist's dream in that there's sufficient meat here to put on the bones of any conjecture you may dream up. I'd hoped for a decent game based on this – something along the lines of 'choose any two countries, a famous movie star and an assassinated politician and show the links'. But this disc doesn't supply it. The game element is restricted to a rather lame question-and-answer section, which directs you to extra files if you consistently answer a series of multiple choice questions correctly. My scepticism here was compounded when some of the supposedly correct answers were wrong!

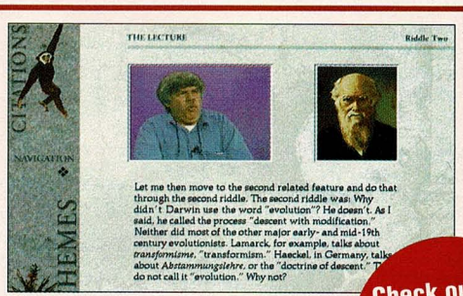
Still, it's certainly an educational experience; it goes some way to proving that history is anything but an objective account of events. But the design of the front-end and means of navigating the contents is very tired. As in CD Vision's other release, *The Bolshoi* (reviewed on page 58), the text display is nothing short of terrible. Presumably I didn't have the correct font installed in my System Folder, but then again this should have been supplied on the disc. Nevertheless, the content makes interesting reading for all students of contemporary history – if only to prove it's never too late for it to be completely rewritten. *Andy Storer*

- **Price £39.99. Out now.**
- **Requires: colour Mac, 2 Mb of RAM, System 7 or later, and a CD-ROM drive.**
- **For more details contact CD Vision on 0171 240 7764.**

MACFORMAT RATING **70%**

First Person: Stephen Jay Gould

A multimedia treatise on Darwin from a US biologist using CD-ROM as his lectern...


CITATIONS
NAVIGATION
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Riddle Two
Let me then move to the second related feature and do that through the second riddle. The second riddle was: Why didn't Darwin use the word "evolution"? He doesn't. As I said, he called the process "descent with modification." Neither did most of the other major early- and mid-19th century evolutionists. Lamarck, for example, talks about transformisme, "transformism." Haeckel, in Germany, talks about Abstammungslehre, or the "doctrine of descent." T
do not call it "evolution." Why not?

A wealth of illustrative material, extensive cross-referencing, and all the tricks of multimedia make up this informative CD.

Check out the rolling demo on this month's CD-ROM

Who? And well you might ask. I'd never heard of this chap; apparently he's a best-selling writer and evolutionary biologist in the US. And here is the good doctor from Harvard expounding on his favourite subjects, evolution and natural history, via a *HyperCard* stack.

As you might expect, Charles Darwin crops up a fair bit in the proceedings, and in fact acts as the central character in what can only be described as a multimedia lecture. Just to add factual detail to Gould's questioning of why Darwin never used the word 'evolution', and why he delayed so long in publishing his theory on the origin of species, there's the entire text of Darwin's main works here. There's also Darwin's correspondence, and related documents, with such figures as Thomas Hardy and John Milton. And, there's plenty of discourse on all things evolutionary.

Can I say right away that this would make a perfect present for the budding biologist in your family and leave it at that? Because we go way, way deep here – past Gould's 60-minute lecture delivered as *QuickTime* footage, past the illustrated text of Darwin's *Origin of Species* and *The Voyage of the Beagle* and Gould's *Bully for Brontosaurus*, and right to the hypertext links between the central precepts of evolutionary theory, and over 100 graphs and illustrations explaining its intricacies.

Fortunately this is anything but a dry academic treatise since Gould is, like all good lecturers, fairly animated and able to present relatively complex concepts in everyday terms. So it all hangs together pretty well and is both informative and entertaining, but it does remain specialised. *Andy Storer*

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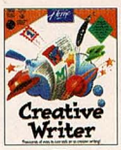

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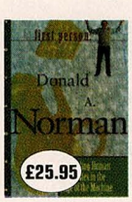

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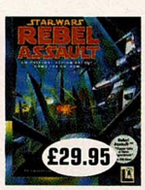

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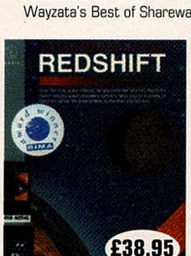

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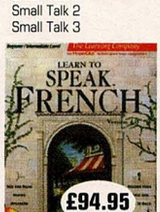

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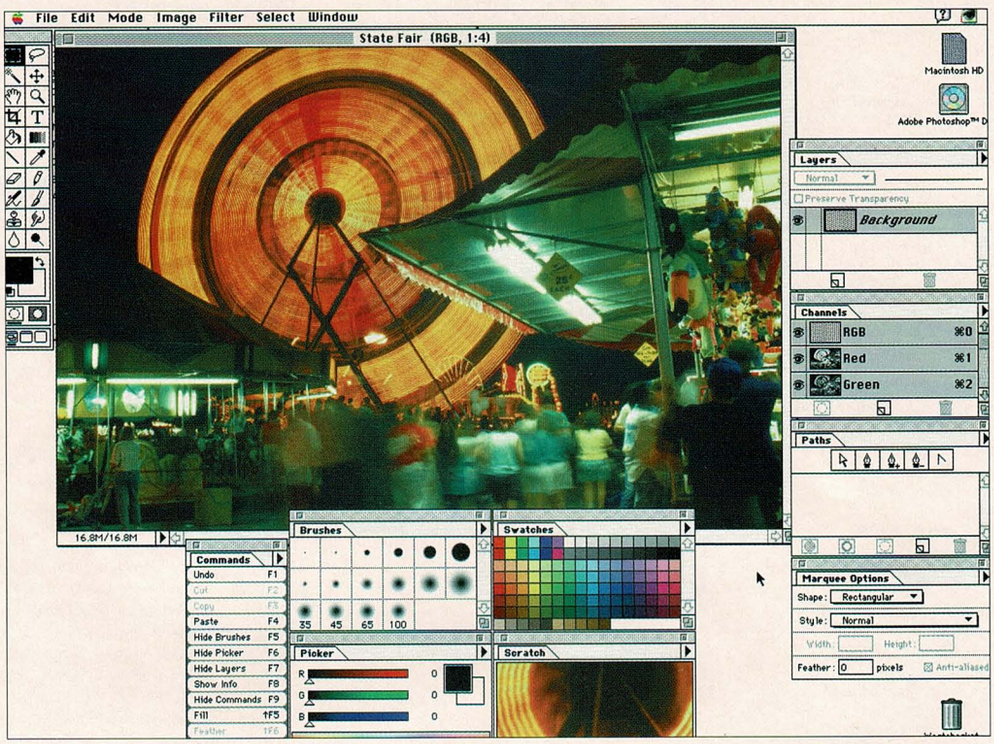
Photoshop 3.0

MACFORMAT Classic

The industry-standard image manipulation package has just been updated. Has the best just got better, asks Marcus Dyson...

Photoshop is, fundamentally, a paint package. It is also a photo re-touching package, a file converter and an image processor extraordinaire. Since it first appeared on the shelves in 1990, it has single-handedly provoked a revolution, which has done to the colour repro industry what the Mac/*PageMaker* combination did to the publishing and design industries.

Thanks to *Photoshop*, small design companies, magazines, and even individuals can produce, capture and manipulate high quality colour images for design, print and multimedia. And with its modular 'plug-in' structure you can extend its functions further. It has been the quantity and quality of these plug-in extensions, written by Adobe and third parties, that in part have been responsible for *Photoshop's* success.



One of the most impressive features of *Photoshop 3.0* is the user interface. Almost every frequently-used function has been brought out onto floating palettes.

Photoshop has evolved through several versions and revisions in the last few years. To be honest, it has gained very little since its original release. But now, the all-new PowerPC compatible version is on sale, and it boasts several significant changes to the previous version.

I have to say, before we start, that ever since I first saw *Photoshop* (when Future Publishing's former Mac magazine, *Mac Publishing*, got a beta for review in 1990) I've been in love with the program. If I were ever to be invited onto *Desert Island Discs*, the little bundle of three-and-a-half inch discs that make up *Photoshop* would

To 3 or not to 3?

If you have a previous version of *Photoshop*, you won't need to be told how powerful and flexible the package is. But *Photoshop 3.0* is also considerably easier to use. At just £125 for the upgrade, you'd have to be stupid not to. Here is a taster of the new features:

Multiple Layers
Now you can experiment with an image without committing yourself to editing it. The Layers control enables you to montage image elements as if they were on separate sheets of transparent film. You only have to commit yourself once you're happy with the results.

Lighting Effects
Apply light sourcing to your illustrations. Edit the strength, colour and direction of the 'illumination'.

Colour range
Make selections by choosing a colour range; all colours in the image within that range will be selected.

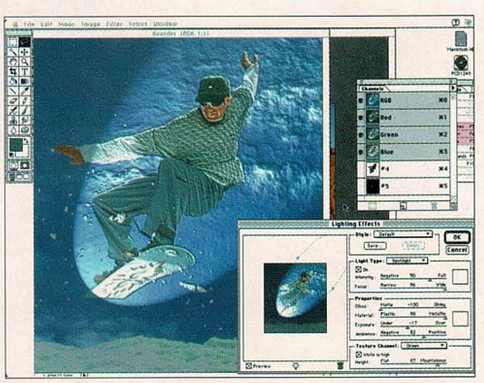
Sponge Tool
You can add colour intensity, or bleach out specific parts of an image.

Gamut Warning
You can instantly see which parts of your image fall outside the CMYK colour range. These areas will not print accurately.

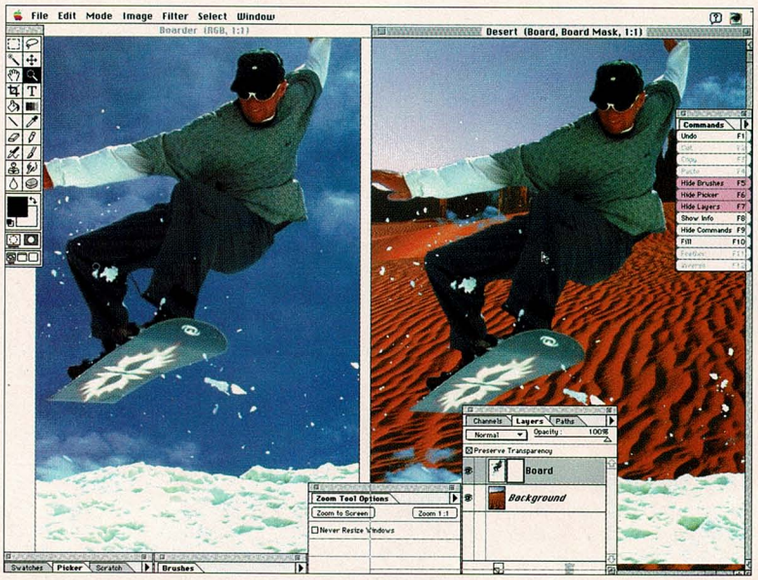
CMYK preview
See instantly what your image will look like in print without going through the long, and sometimes image-degrading, process of CMYK conversion.

Filter Previews
All filter requesters now have a window that interactively shows the effects of the currently selected filter settings on a small part of the image.

Quick Edit
This enables you to avoid shortage of memory or 'scratch disk full' messages by working only on a certain part of an image. *Photoshop 3.0* enables you to select, open, and work on one section of an image, and then recombine it with the original image seamlessly. This feature only works with a limited selection of file formats though, and strangely enough, although *Photoshop 2.0* format is one of them, *Photoshop 3.0* isn't!



The new lighting effects filter is great for creating textures. You can define as many lights as you wish, and give them attributes of colour, spread, and intensity, as well as setting the ambient light level. Then you can select one channel of the image as a 'relief map' and set the amount of bumpiness that this gives the image. The CD-ROM comes complete with a whole set of texture channels for use with this filter.



Drag-and-drop between documents makes cut and paste, and the long tedious waits associated with it, a thing of the past.

constitute the bulk of my selection. But despite this unbridled enthusiasm for the software, I will not let this sway me at all in this assessment of the latest version. Hey! I am, after all, a professional.

How much RAM?

The first thing you'll notice about *Photoshop 3.0* is the Mac requirement. While previous versions of the software have been quite heavy in their system requirements, version 3.0 is definitely happiest on the kind of Mac belonging to the person generally referred to as a 'power user'. It will run in 6Mb of free RAM, except on a PowerMac, for which it needs 11Mb. As you might suspect, the more RAM the better. To deal with large files, *Photoshop* stores some of the data on the hard disk. However, you must make sure you have at least as much free hard disk space as RAM, otherwise some error messages may occur.

A complete installation of *Photoshop 3.0* will take in the region of 17Mb of hard disk space, but some of this, like the tutorials, Acrobat reader, *ATM* and *QuickTime* are either disposable or may already be installed in your system. CD-ROM owners gain several extra benefits. (See the 'CDeluxe' box for more details.)

New interface

One of the most significant changes in this new version of *Photoshop* is the interface. While still conforming to Mac guidelines, it removes many tasks from the depths of the menus and sub menus, and brings them out onto floating selection palettes.

The palettes themselves are fully configurable, so you can drag them all out onto separate palettes or collapse the ones you use most frequently into one custom super-palette. The palettes 'float' on the screen in a very intelligent manner, and when you drag them around they'll attempt to snap to the screen edges or align with other palettes. This small thing really is impressive, especially if you're as obsessive as I am about Desktop tidiness!

The program supports drag-and-drop quite extensively. Not only can you drag selections between documents, which means you can copy and paste without deleting the contents of your pasteboard buffer, but you can also drag and drop items in and between the palettes. This makes creating a selection channel, and other similar operations, far simpler.

A particularly useful new feature is the ability to make selections based on colour ranges. The eyedropper is used to define the colour to be selected, and the 'Fuzziness' slider is used to create a range to either side of that colour. The [+] and [–] eyedroppers can be used to add colours to the range and delete colours from it.

The range selection feature is ideal for situations like this, when we want to remove a sky, which spans quite a few tones from the picture.

Selections

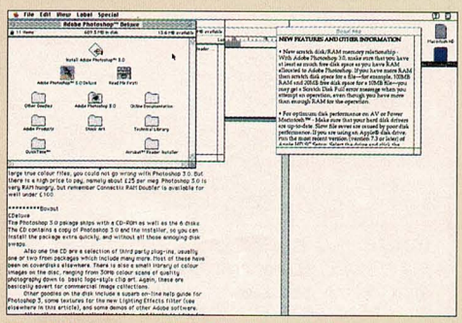
The whole concept of selections has always been one of *Photoshop's* greatest strengths. These channels (much like the normal red, green and blue channels of an RGB image) enable you to cut and paste, or apply effects to specific parts of the image that you're using. And using multiple selection channels makes it possible for you to de-select, than re-select a part of the image later.

Photoshop 3.0 adds to this function in two very important ways. You can now add to a selection; previously it was necessary to make a new selection channel and combine the two using the calculation functions. It is now possible simply to click and 'add to' or 'remove

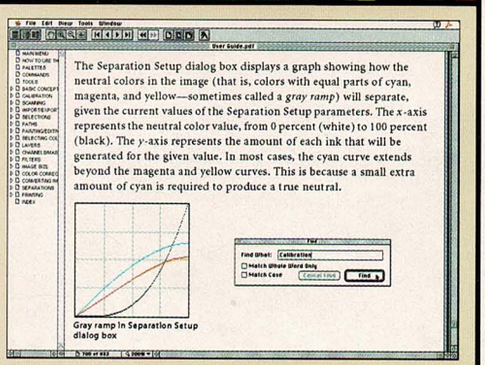
CDELUXE

The *Photoshop 3.0* package ships with a CD-ROM as well as the six floppy disks. The CD-ROM contains a copy of *Photoshop 3.0* and the installer, so you can install the package quickly, and without all those annoying disk swaps.

Also on the CD-ROM are a selection of third-party plug-ins, usually one or two from packages that include many more. Most of these have been on cover disks elsewhere. There is also a small library of colour images on the disc, ranging from 30Mb colour scans of quality photography, down to basic logo-style clip art. Again, these are basically advertisements for commercial image collections.



CD-ROM owners get 609M/b of data with *Photoshop 3.0* from the *Photoshop* Deluxe CD that is included.


The Separation Setup dialog box displays a graph showing how the neutral colors in the image (that is, colors with equal parts of cyan, magenta, and yellow—sometimes called a *gray ramp*) will separate, given the current values of the Separation Setup parameters. The *x*-axis represents the neutral color value, from 0 percent (white) to 100 percent (black). The *y*-axis represents the amount of each ink that will be generated for the given value. In most cases, the cyan curve extends beyond the magenta and yellow curves. This is because a small extra amount of cyan is required to produce a true neutral.
Gray ramp in Separation Setup dialog box

Probably the high point of the CD-ROM is the on-line documentation. You'll need a large amount of RAM to have *Photoshop 3.0* and the Acrobat Document Reader open simultaneously though.

Other goodies on the disc include a superb on-line help guide for *Photoshop 3.0*, some textures for the new Lighting Effects filter, and a collection of demos of other Adobe software.

All in all, an excellent collection to have, and thanks to Adobe for it. But if you don't have a CD-ROM, don't feel compelled to buy one on the strength of this disc.

from' when you **Save** the selection, and the appropriate changes will be made to an existing selection channel.

The second change to *Photoshop's* selection features is possibly the most important aspect of the new version. In previous versions, like all bitmap programs, *Photoshop* suffered from the fact that any change in the image was permanent, bar the one (or more) undo steps that the program may have offered. This means that experimenting with an image involved much undoing, and even returning to backups of earlier versions. *Photoshop 3* overcomes this limitation by offering you Layers to work on. The best way to imagine these is as if they were separate layers of transparent film. Changes made on one film are visible on the document as a whole, but they do not affect anything on the layers below.

Layers can be shuffled so that areas of lower layers can only be seen through the transparent parts of higher layers. Fortunately, *Photoshop 3* also has the addition of 'transparent' backgrounds to images.

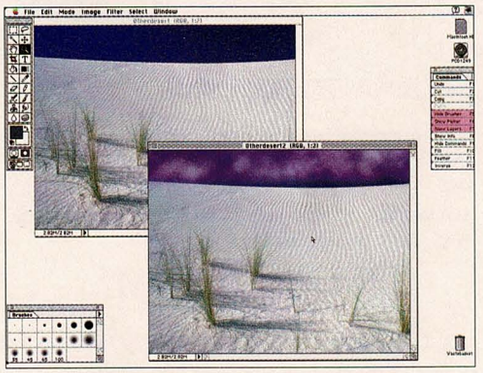
This new way of working really does revolutionise the way you construct images only hours after you start to use it. But as with many of *Photoshop's* new functions, RAM demands are high once you begin to add a few more RGB layers to an image!

Fortunately, *Photoshop 3.0* keeps you very well informed of RAM (or scratch disk) requirements. The file size indicator at the bottom left of every document window now tells you the basic file size (just the three RGB or four CMYK channels) and the expanded file size (taking all layers and alpha channels into account).

A simple trick to help give an illusion of reality to incongruous elements used in the same picture is to create a lens flare that spills over from the background onto the foreground object. This subtle optical trick is very convincing to the human eye, although no one would ever really believe that this chap was seen snowboarding in the Mojave desert.

The Gamut warning feature gives an instant indication of which areas of an image do not lie within the CMYK gamut. These areas will not print accurately.

Documents in *Photoshop 3.0* can be given a background colour of 'Transparent'. This background appears as a checked background like this one.



First there was a deep blue, cloudless sky, and then there were some clouds, sort of... *Photoshop 3.0's* two new 'Clouds' filters are both fairly ineffective, and they don't really offer very much creative control.

High price to pay

Photoshop is an incredible piece of software. Everything that was not right (it would be unfair to say wrong) with previous versions has been corrected – with the exception of its text handling capabilities, which are still limited. Oh, and the **Image/Effects** menu still doesn't have an option to bend and warp objects, and maybe a couple of other things. But we're not saying that this is a perfect piece of software. What we are saying is that it's as good as you are going to get. If your work involves manipulation of large true-colour files, you can't go wrong by buying *Photoshop 3.0*. But there is a high price to pay: about £25 per Mb. *Photoshop 3.0* is very RAM hungry, but remember Connectix *RAM Doubler* is available for well under £100. There may never be a better reason for buying it!

Marcus Dyson

JACK OF ALL TRADES, MASTER OF MOST!

There are many reasons why you would want to buy *Photoshop 3.0*. Image file conversion, scanning, image editing and manipulation, or multimedia and video work are just a few of the areas in which *Photoshop* excels. It is true to say that no other program can claim this extensive a portfolio, but you have to ask yourself, 'Do I really need *all* that power?' If the answer is yes, then *Photoshop* is an absolute bargain, but if your needs are a little more specialised you could save yourself a lot of your hard-earned cash by considering the following packages:

Scanning - *Photoshop LE*,

Adobe £n/a, bundled with scanners

If you're buying a scanner, make sure it has good scanning software included. This will often take the form of *Photoshop LE* and a plug-in to drive the scanner. For many users, this is a perfectly suitable solution.

File Conversion - *DeBabelizer/DeBabelizer Lite*

Equilibrium Software £199

If you are using your image processor as a bridge for image files between two or more platforms, *Photoshop* is an extremely flexible tool. *Photoshop* can load every image file format that you have ever heard of. But *DeBabelizer* can handle all those as well, and more. And it even has good image processing and excellent palette reduction features too.

Image creation - *Painter/Painter X2*

Fractal Design £219

Fractal Design's *Painter* is the prime example of its 'Natural Media' series of paint packages. So it is ideal for producing illustrations that appear as if they were created with traditional tools like watercolour or charcoal. But when combined with the *X2* extension it is a powerful image creation and editing package.

PHOTOSHOP

Price: £725. Upgrades: £125 from any previous full version or £179 from *Photoshop LE* version, which is bundled with many scanners.

Requires: LC or better, 6Mb of RAM (11Mb on Power Mac), at least 20Mb of free hard disk space, System 7.0 or later. Recommended: LC475 or better, or Power Mac, 16Mb of RAM (24Mb for PowerMac), System 7.1.2 or later.

For more information contact Principal Distribution on 0181 813 5656, or your local dealer.

Features 95%
All those 'if only it could' moments from using *Photoshop 2.5* are now gone.

Ease of use 92%
The new interface layout makes all that awesome power a doddle to use.

Documentation 89%
Less weighty and more accessible than previous versions. Plus a tutorial book and on-line docs on the CD.

Value for money 79%
Hell, it's a very expensive package, and you'll probably need a hardware upgrade to use it too!

MACFORMAT RATING 90%

Snowboarder image © Sang Tan Sport Images 0181 651 1081, used courtesy of Snowboard UK magazine 01562 827744.

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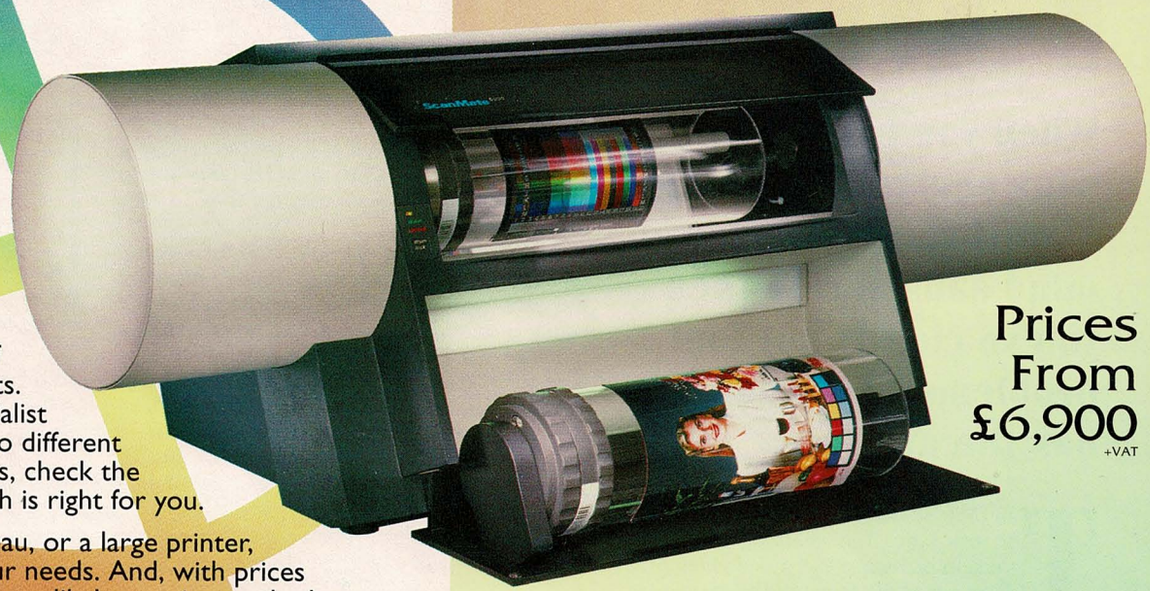

Regardless of your application, if you are in search of precision scanning then ScanView has the answer.

The ScanMate range of Drum Scanners from ScanView includes four models, all capable of producing quality, precision results. Each scanner's unique specialist features make it appropriate to different production environments, check the comparison to the left to see which is right for you.

Whether you are a small bureau, or a large printer, ScanMate has a model suited to your needs. And, with prices from only £6,900, ScanMate is more likely to suit your budget too.

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Call Tony Brecht on 0181-308 0888 to arrange an appointment.

Prices From £6,900 +VAT

	SCANMATE MAGIC	SCANMATE PLUS II	SCANMATE 4000 NEW	SCANMATE 5000
ORIGINATION				
Transmission Originals	Positives (Neg option*)	Positives & Negatives	Positives & Negatives	Positives & Negatives
Reflection Originals	Yes	Yes	Yes	Yes
Reproduction	Colour & Greyscale	Colour & Greyscale	Colour & Greyscale	Colour & Greyscale
Max Image Size (mm)	210 x 295	210 x 295	222 x 303	222 x 303
INPUT CHARACTERISTICS				
Drum Type	Fixed	Fixed	Removable	Removable
Max Scanning Resolution	2,000dpi	2,600dpi	4,000dpi	5,000dpi
Drum Speed (rpm)	1,000rpm	1,200rpm	1,600 - 750rpm	1,600 - 1,000rpm
Dynamic Range	3.4D	3.6D	3.8D	4.0D
Sensor Type	Photodiode	PMT (PhotoMultiplier Tube)	PMT (PhotoMultiplier Tube)	PMT (PhotoMultiplier Tube)
No of Sensors/Passes	1 / 3	1 / 3	3 / 1	3 / 1
Colour Accuracy	12-bit (36-bit RGB)	12-bit (36-bit RGB)	12-bit (36-bit RGB)	12-bit (36-bit RGB)
OPTICAL SYSTEM				
Apertures	2 Fixed	2 Fixed	6 Auto + Override	6 Auto + Override
SCANNING ATTRIBUTES				
RGB Scanning	Standard	Standard	Standard	Standard
CMYK Scanning	Option*	Standard	Standard	Standard
USM Sharpening	Option*	Standard	Standard	Standard
Artificial Intelligence System	Option†	Option†	Option†	Option†
Gang/Batch Scanning	No	Standard	Standard	Standard
Platforms	Power Mac**, Mac, PC	Power Mac**, Mac, PC	Power Mac**, Mac, PC & SUN	Power Mac**, Mac, PC & SUN

*Requires ColorQuartet software, optional extra.
†Requires ColorQuartet User Guidance Module, optional extra
** New PowerMac Native Software

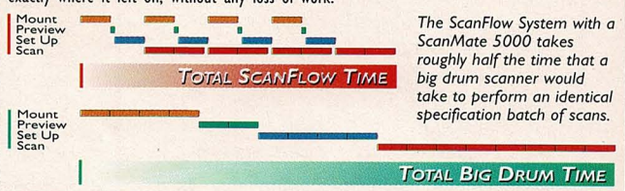
Optimum Productivity

With the new ScanFlow System

Traditionally, mounting, preview and set-up have to be completed for all images before scanning can begin. The ScanFlow system, with the ScanMate 5000, offers a much more productive and more profitable alternative, so that your scanner and operator are both working at the same time, all the time.

Big Drum v ScanFlow System

The ScanFlow System allows more than one job in the scanning process to be performed at a time, drastically reducing the overall length of time it takes to complete batches of scans. While theScanMate 5000 is busy scanning one drum, the operator is busy too, mounting or setting up another drum full of images. So, when one drum has been scanned, another one is ready to replace it, so your scanner is constantly in operation. This method is not only faster and more efficient than the traditional bulk MOUNT - PREVIEW - SET UP - SCAN procedure, it is also more flexible too. Because the ScanMate 5000's drums are barcoded, the scanner can be interrupted at any time to accommodate a 'rush job', then resume scanning exactly where it left off, without any loss of work.



The ScanFlow System with a ScanMate 5000 takes roughly half the time that a big drum scanner would take to perform an identical specification batch of scans.

RGB For Photo Labs

Photo Labs with transparency writers can now bring their scanning in-house using a ScanMate scanner with a customised version of ColorQuartet that produces RGB files which are uniquely calibrated to suit individual transparency writers and processors.

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SCANVIEW INFORMATION PACK

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Font of wisdom

When you can't print sans squiggles or sans annoying errors – never mind sans serif – then you've clearly got font problems. Jim Chandler has the answers.

The Mac's success is built on its ability to use type. Ten years ago, the first version of *PageMaker* hauled ailing Mac sales out of the mire, and gave the Mac a purpose. Ever since then, the Mac's ability to handle type and scalable fonts has improved in leaps and bounds.

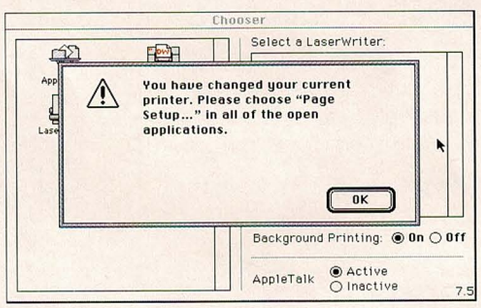
But why are there so many different font formats? What's the difference between PostScript and TrueType? And why do you sometimes need a screen font and a printer font, and sometimes you don't? In short, if fonts are so fundamental to the Mac, why are they so confusing to use?

Font formats can be split into two types: bitmap fonts and vector fonts. Bitmap fonts are the basic type used by the Mac. Each font file contains one font at one size so several bitmap fonts are needed to cover the general range of type sizes. If a bitmap for a particular size is needed, but isn't installed, the Mac will take the nearest size, and scale it up or down to match. This can lead to some peculiar, blocky looking type, so another font rendering method was devised.

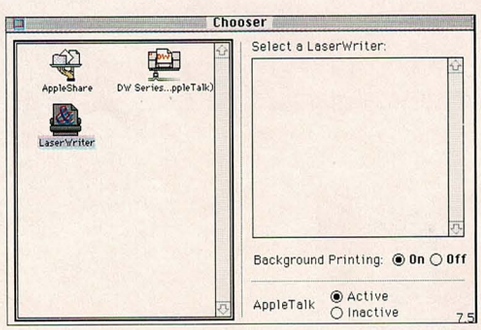
Vector fonts – TrueType or PostScript fonts, for instance – use a method more akin to 'joining the dots'. The characters are drawn by plotting an outline from lines and curves generated from information contained in the font file. The character can be enlarged or reduced simply by moving the points used in the outline. This means that vector fonts can easily be produced at any size from a single font file, and that they can be stretched, squashed, made bold or light, italicised, and generally mucked about with simply by their outlines.

But if vector fonts are so good, why are bitmaps still around? Mac programs have access to fonts because they are handled by the System. The original bitmap fonts are actually System resources, and in versions of the System prior to System 7, they could only be installed or removed by using a program called *Font/DA Mover*. This actually attached the fonts to the System File.

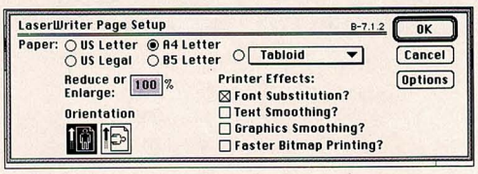
Apple has made font handling easier since then, but the Macintosh still needs a System resource for each font. This is why PostScript fonts still need bitmap fonts (often called screen fonts) as well as the actual PostScript font file. TrueType and the new QuickDraw GX fonts contain both the vector font information and the System resource in a single file – an altogether neater method.


Chooser
Select a LaserWriter:
You have changed your current printer. Please choose "Page Setup..." in all of the open applications.
OK
Background Printing: On Off
AppleTalk Active Inactive
7.5

Not all printing problems are to do with fonts. If you change your printer you must tell all your applications, for instance.



If you get a message saying, 'Not enough memory to print' you can try turning Background Printing off in the Chooser.

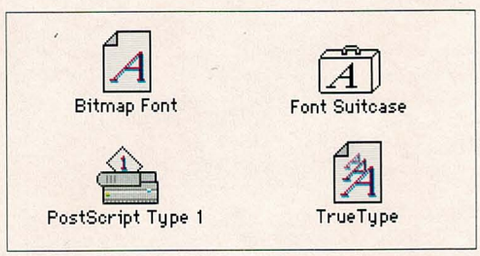


When you select 'Font Substitution' some bitmap fonts will be replaced with PostScript alternatives.

A font needs a home

Installing fonts is also easier nowadays. In System 7, bitmap and TrueType fonts are installed by dragging them to the System File inside the System Folder: this file looks like a font suitcase file with a little icon of a Mac on it. To remove fonts you simply double-click on the System File to open it, and drag the font files out again. PostScript printer fonts should live in the Extensions Folder inside the System Folder.

With System 7.1, Apple finally came up with a logical place for fonts to live. A new Folder appeared in the System Folder, called (believe it or not) Fonts. All your fonts can be installed simply by dragging them into this folder. PostScript printer fonts live in here too. A word of warning: the Fonts Folder should be in the first level of the System Folder. If it gets put inside another folder, the Mac won't be able to find the fonts.



Different font types can be recongnised by their icons. But both TrueType and QuickDraw GX fonts have the same icon!

A little help from...

Theoretically, the Mac can only handle up to 128 fonts at a time. In fact, this isn't true. Your Mac will complain bitterly if there are more than 128 font files or suitcases in the Fonts

A WORD FROM THE MANAGER

Adobe Type Manager can produce some very impressive results. It's one of those 'must have' programs that many designers and printers just couldn't do without.

But it's not without its little foibles. *ATM* needs to know where your PostScript font files are being kept. Unfortunately, their location is hard-coded into *ATM*. This caused some real problems when System 7.1 came out. In earlier versions of the System, PostScript printer fonts had lived either loose in the System Folder or in the Extensions Folder. System 7.1 was the first version to have a Fonts Folder, and the System was told to expect printer fonts to live here as well as bitmaps (try dragging a PostScript font onto the closed System Folder and you'll see what I mean). Poor old *ATM* still expected them to be either loose in the System Folder or in the Extensions Folder. You had to be careful where you put your fonts – until Adobe upgraded its software.

Versions of *ATM* after 2.0.3 are smart enough to know that fonts live in the Fonts Folder. Version 3.7 comes with System 7.5, and is the first version to support Apple's new QuickDraw GX font format (see the 'A wider perspective' box).

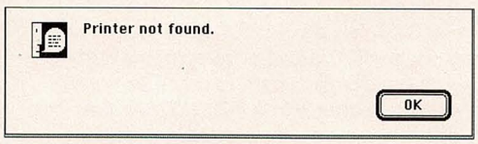
If you're a PowerMac owner and you're desperate to wring the last ounce of speed out of your Mac, then the latest version of *ATM* – 3.8 – runs on the PowerMac using native code.

Folder, but as you can put several fonts into a suitcase, you could have a couple of hundred fonts loaded. This isn't a good idea, however, because all the fonts are added to the System – taking up memory and slowing down your Mac considerably. It's better just to install the fonts you need at the time.

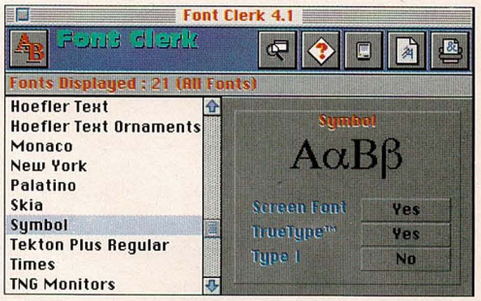
This can get tedious if you've got several files to print, when they all need different fonts. But help is at hand from a utility called *Suitcase*, which costs £41.13 from Principal, tel: 01706 831831. This enables you to compile suitcases full of fonts and desk accessories, and switch between them. So you could have one suitcase loaded that gives you the fonts you need for your company newsletter, and switch to another suitcase that contains the faces you need for that wedding invitation – all without having to restart your Mac.

If you do have zillions of fonts loaded, you will probably soon lose track of exactly what fonts you have and what they look like. Their names don't normally help; I mean, does Geneva really look Swiss? Normally you would have to make up a document in your word processor or DTP package with a line set in each font, which is a very time consuming and not exactly thrilling task.

This is where a nifty little $10 shareware utility called *FontClerk* comes in extremely handy. (For details of how to get hold of shareware, see page 105.) It can print a list of all your installed fonts as they appear on screen. It can also create suitcase files where you can keep otherwise homeless fonts. And it can even convert PC TrueType fonts to Mac TrueType (although this is a bit of a black art that the program can't



If you get this message then it's probably a good idea to check your cables or make sure the printer is turned on.



FontClerk enables you to print out a list of your installed fonts so you can see exactly what they look like.

TACKLING THOSE TYPE TROUBLES

What if it doesn't all go quite as planned? What if your exquisitely formatted document just won't print properly? Here are some of the more common printing problems and solutions:

1. Symptom: 'jaggies'
Letters appear 'jaggy' when printed.
Possible cause
(a) The font in question is a bitmap font with no corresponding PostScript font.
(b) The PostScript part of a font is missing or not installed properly.
(c) The font is a PostScript font, but is being printed on a QuickDraw printer.
(d) The font is a Type 3 PostScript font being printed using *Adobe Type Manager* (*ATM*).
Action
(a) There's not a lot you can do because bitmap fonts always tend to look slightly jagged. If this isn't acceptable, then you'll have to use a PostScript or TrueType font instead.
(b) Check that you have the PostScript part of a font and that it is installed in the correct place (see main text). If you are using *ATM*, make sure that the fonts are in the correct place for the version you're using (see box opposite).
(c) QuickDraw printers (any Mac printer that isn't a PostScript printer) cannot print PostScript fonts without help. This help usually comes in the form of *Adobe Type Manager (ATM)*. If you install *ATM*, and put your fonts in the correct places (see main text), then your humble QuickDraw printer should be able to manage Type 1 PostScript fonts.
(d) *Adobe Type Manager* only works with Type 1 PostScript fonts. If the font in question is a Type 3 font, then a QuickDraw printer will only be able to use the bitmap font. Some fonts come in both formats, in which case you should make sure that you've installed the Type 1 PostScript fonts. If you only have the Type 3 font, you may be able to make use of a font conversion package like *Metamorphosis Professional* (which is available from Softline, tel: 0181 401 1111, and costs about £110) to convert your Type 3 font to a Type 1 font.

2. Symptom: wrong font
Type is printed in the wrong font.
Possible cause
(a) The document was created using a font that is not installed in your System.
(b) The document contains an EPS graphic that was created using a font not installed in your System.
(c) You're trying to print an Apple-supplied bitmap font on a PostScript printer, and you've selected **Font substitution** from your **Page Setup** dialogue box.
Action
(a) Ensure that all the fonts used in the document are available on your System (either as Mac fonts, or as PostScript fonts downloaded to the PostScript printer).
(b) Ensure that all the fonts used in the EPS graphic are available to the System (see point (a) above). You may need to ask whoever created the graphic which fonts were used. Alternatively, it may be possible to use the EPS drawing program to change text to outlines, in which case the relevant fonts won't be needed to print the file.
(c) Check that you haven't used fonts like New York, Geneva or Monaco and selected **Font Substitution** in the **Page Setup** dialogue.

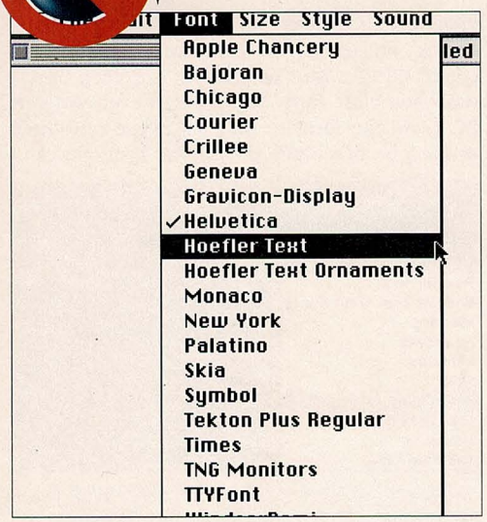
3. Symptom: untrue type
Some TrueType faces don't print at all, or appear in Courier.
Possible cause
You're using version 8 of the LaserWriter printer driver.
Action
Talk nicely to your local AppleCentre and see if they'll supply you with version 8.1.1 of the LaserWriter driver.

4. Symptom: lost printer?
The Mac reports that it is 'unable to find' a printer at print time.
Possible cause
(a) The printer is not switched on or not connected to the Mac or to a network.
(b) The printer is a SCSI printer and has fallen foul of a SCSI problem. (For more information on SCSI problems see MACFORMAT 19.)
Action
(a) It sounds obvious, but it's quite easy to forget to turn on the printer with rest of the system, especially if it's a networked printer and it lives some distance from your Mac. Remember that some printers take a few minutes before they're ready to print. If you leave it a while, it may start working. It's also worth checking that the serial or network cables connecting the printer to your Mac are in place and undamaged. If you use a network with a print server, make sure that it's working properly; some printers can be susceptible to failures of other parts of the network.
(b) If you have a printer like a LaserWriter SC or the original Colour StyleWriter, which connects using SCSI, then the SCSI chain may well be the culprit.

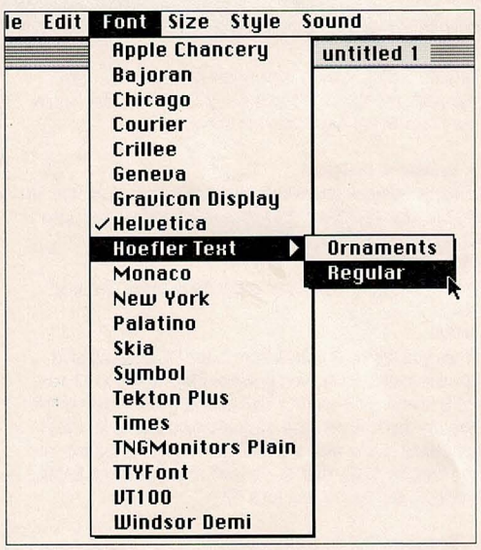
5. Symptom: waiting
The Mac is freed up very quickly when printing, but printing is slow and the Mac becomes slow and unresponsive until the printer is finished.
Possible cause
Background Printing.
Action
Turn off Background Printing in the **Chooser**. Now when you print, the Mac won't be free to be used until the printer has finished, but it will then run at normal speed.

6. Symptom: marginal
Sometimes when you switch from one printer to another in the **Chooser** and then print a document, the margins aren't right when you print on the second printer.
Possible cause
Printer settings not updated in the **Page Setup** dialogue box.
Action
When you switch printer drivers in the **Chooser**, an alert box will appear telling you to select **Page Setup** in all open applications. It's important that you do this, because this is how the applications keep track of which printer they're connected to and what the settings are for that printer. You don't need actually to alter any settings in the **Page Setup** dialogue, just open it and click **OK**.

7. Symptom: not-so-QuickDraw
Files take a long time to print on a QuickDraw printer.
Possible cause
(a) Too little memory allocated to the application or to the **Print Monitor**.
(b) The application is only designed to handle PostScript printers.
Action
(a) Close the application, and find its icon. Click once on the icon and choose **Get Info** from the Finder's **File** menu. A dialogue box will appear. Locate the box marked **Preferred size** and increase the number in the box. This is how much memory the application will try and take over when it launches. Be careful when altering it: if you make the value too high, the application may not be able to find enough memory in your System to start up. Try a few values to find the best amount of memory. Usually adding about another 1,000K will make a difference (if you've got 1,000K to spare, of course). If you're using Background Printing, you may find that allocating more memory to the **Print Monitor** in your Extensions Folder will make the difference.
(b) Some DTP packages are designed to work with PostScript printers only. *QuarkXPress* is well known for this, and Quark have no plans to support QuickDraw printers. Printing to a non-PostScript device from *QuarkXPress* is likely to give results that will be unpredictable at best. *PageMaker 5* has better support for QuickDraw printers, but it's still optimised for PostScript. There is no easy answer if this is your problem: either buy a PostScript printer or use another DTP package that does support QuickDraw.



In a normal Fonts menu you see an entry for each style of font. In this case: Hoefler Text and Hoefler Text Ornaments...



... But with Adobe *Type Reunion* all the Hoefler styles are kept in one menu that pops out to the side of the main menu.

always manage, so use it cautiously).

Shuffling bits of paper around to find the typeface you want is a bit low-tech, though. Wouldn't it be better if the names in your font menu were shown in the correct format? Some programs – for instance, *ClarisWorks* and *WordPerfect* – include this feature. For programs that don't, you can add it by using one of a number of utilities, such as *Now Utilities*' WYSIWYG Menus. *Now Utilities* costs £63.50 from Frontline, tel: 01256 463344. Or if you're a bit short of cash, *WizzyFonts*, which is shareware and costs a mere $9.95, is a little System Extension to turn any font menu into a WYSIWYG menu. WYSIWYG (pronounced wizzy wig – What You See Is What You Get), menus have their drawbacks, though. For one thing they're slow, because the Mac has to load in a new font for each item. And some fonts, such as Zapf Dingbats, don't contain recognisable letters, so their entries in the font menu just seem to contain gibberish. A minor price to pay.

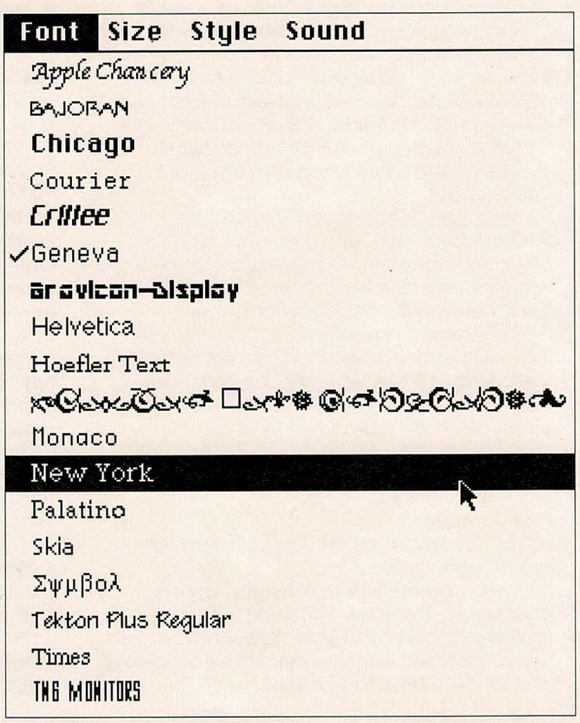
So you've managed to cram 600 fonts into your Mac, you're writing a document, and you've just got to change that heading from Aardvark Medium to Zzzuperdooper Extra Bold. You go to the font menu, drag down to the little triangle at the bottom... and sit through hundreds of font names, scrolling up the screen until you reach Zzzuperdooper – only to remember that the font you need is called E B Zzzuperdooper, and lives further back up the font list. Off you go again, heading the other way...

Okay, this is an extreme example, but according to convention, fonts tend to have a letter in front of their names that describes their attributes, such as B for bold, I for italic, and so on. This can make a simple change from say, bold to black, into a chase up and down the Font menu. Adobe *Font Reunion* (£52.88 from Principal, tel: 01706 831831) sorts that problem out. It keeps font families together on the font menu. With the help of this program, all your different cuttings of a face are grouped together in a little menu that pops out from the side of the Font menu. It's handy, but has been known to cause some older or poorly written programs to crash.

The one font utility that nearly everyone has heard of is *Adobe Type Manager*, available from Principal, tel: 01706 831831, for £45.83. *ATM*, as it's commonly known, was a real breakthrough product when it first came out. Put simply, it renders Type 1 PostScript fonts on the Mac screen or on a printer, so if you've got *ATM* loaded, you don't need a PostScript printer to get smooth text at any size. As an added bonus, text is rendered smoothly on your screen too. See the 'A word from the manager' box.

Jim Chandler

WizzyFonts is a System Extension that turns your Font menu into a WYSIWYG menu: it displays your fonts in their correct format.



A WIDER PERSPECTIVE

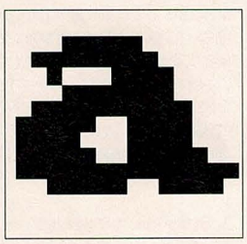
Unless you've been living on a desert island for the past few months, you could hardly have failed to see frequent mentions in the Mac press of QuickDraw GX. This new version of the Mac's screen/printer imaging system sports lots of interesting (and memory-hungry) new features, like drag-and-drop printing to desktop printer icons, a standard print format to let users share documents without needing the application which created them, and, best of all, a new font format.

QuickDraw GX fonts are basically Type 1 PostScript fonts, but they don't require separate screen fonts – each font consists of one file, much like a TrueType font. In fact, the QuickDraw GX fonts have identical icons to TrueType fonts, so much confusion will be inevitable as they become more common. Why Apple didn't come up with a completely new icon is beyond me.

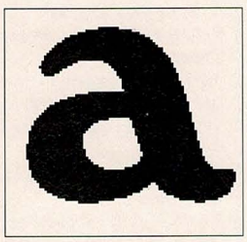
Apart from tidying up the file management side of its new fonts, Apple has also extended the font format to allow for special characters. Before, fonts only contained about a couple of hundred characters on average: upper and lower case letters, numbers and punctuation marks. If you wanted old-style numerals, or small capitals, or proper ligatures (like ff and fl) then you had to buy an expert set for that font. QuickDraw GX looks set to do away with all of that.

A GX font can contain up to 16,000 characters, so all those special symbols and obscure typesetting characters can be contained in a single font. QuickDraw GX compatible programs are currently quite rare, but they will allow the new capabilities of the GX fonts to be used. For instance, simply highlighting the text and selecting **small caps** from the relevant menu will set the text in small capitals, rather than ordinary caps at a smaller size. As the format catches on, you can expect to see some rather more attractive pieces of typesetting.

Sreen fonts are bitmapped – they're made up of lots of pixels. If you want the font at any size other than the designed one they will appear 'jaggy', especially on a curve.



If you have *Adobe Type Manager (ATM)* installed in your System, your fonts are rendered smoothly on screen and, more importantly, they print out smoothly too.



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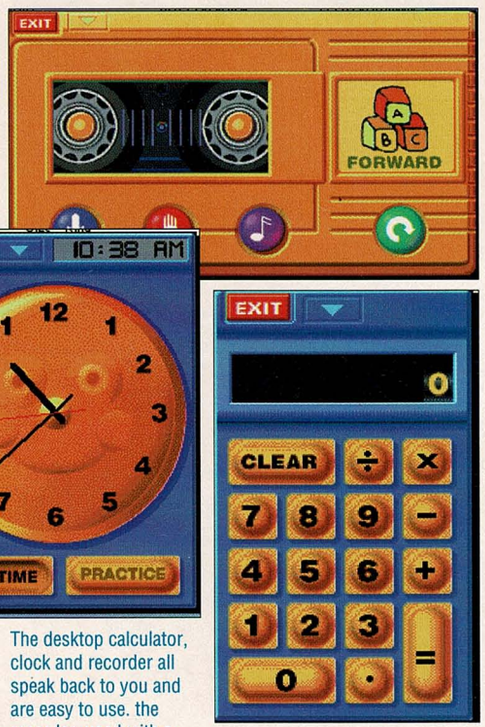
Child's play

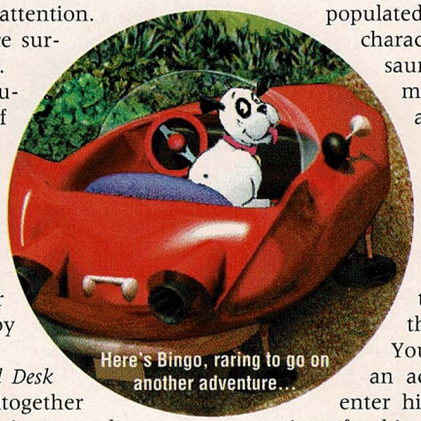


The desktop calculator, clock and recorder all speak back to you and are easy to use. the recorder, used with a microphone can be used to store messages and sounds.

Terrified your child will hit OK when asked if he really wants to wipe your hard disk? Andy Storer and Derek Smith have the answer...

If, like me, you have a young child at home who thinks that a Mac is a kind of TV with programmes that are always available whatever the time of day, you'll also know that keeping control of its contents requires a fair bit of attention. Let's just say '24 hour police surveillance' and leave it at that.

The cheap and easy solution is to put your Mac out of reach. The smarter method is to buy an alternative Desktop specifically designed to stop investigative little hands causing a major Mac crisis. Then you can keep your Mac available for unsupervised exploration by your child.



Here's Bingo, raring to go on another adventure...

Both *Launch Pad* and *Kid Desk* replace the Finder with an altogether friendlier front-end. More importantly, they give you the ability to cusomise this to hide your own precious data, leaving your child with just the applications and games he is supposed to have access to.

Launch Pad

Launch Pad is based on a simple security system in which you set up 'accounts' for each child who uses your Mac. You then set up control access via a master password. *Launch Pad* combines fun, ease of use and a good level of protection. The security it offers extends right down to it automatically booting up each time you turn on the Mac – a feature that can be disabled when you enter the master password.

The Desktop that *Launch Pad* replaces your Finder with consists of colourful animations featuring Bingo, *Launch Pad's* mascot dog, and his rocket car. Your child can simply click on his own special key and the fun begins. When he's in the driving seat he can explore different scenes populated with animated characters – castles, dinosaurs, space ships and more. Or he can gain access to his own Desktop accessories like a talking clock, a calculator and a tape recorder.

But the main purpose of *Launch Pad* is as a security system: you can pre-set the applications and games that each child has access to. You can do this by setting up an account for your child: you enter his name, choose a personal icon for him and enter his age. *Launch Pad* then scans your hard disk for applications and games which it considers suitable for your child's age. Of course, this won't always be either successful or appropriate, so your can override the choices and select your own. And as far as installation is concerned, that's all there is to it.

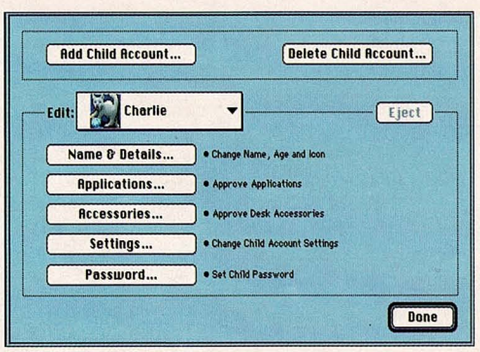
When you restart your Mac you'll find Bingo waiting in his car, eager to begin another adventure. Fortunately, *Launch Pad* comes courtesy of Berkeley Systems, the company behind the *After Dark* screensavers, so you're not confronted by something that is patronisingly naff. Fun is firmly the order of the day here and the animated scenes are delightful. They take the form of landscapes full of creatures and objects that your child can interact with. The action is very imaginative, and it's all seamlessly executed with a wonderful combination of bright colour, cartoon motion and sound effects.

As your child 'drives' around the different scenes – in between sessions working out his future pocket money expenditures with *Excel 5* or whatever – he can choose to call up the KidsClock, KidsCalc and KidsTalk modules. These are self-explanatory. They're accessible from the rocket car's dashboard and they're well implemented.

Such is the thought that's gone into this product, that when your child launches any application, he'll be able to hear menu items and dialogue boxes; benefit from 'sticky menus', which means he won't need to keep the mouse held down; and save documents he's created in the glove compartment of the rocket car – for easy access in future.

Printing is also made easy; it's just a one-step function with all the usual dialogue boxes being overridden. Customised mouse and keyboard settings are also available. Finally, there's a feature called PadLock that serves as an automatic screensaver whenever your Mac receives no input for a specified idle time. This locks up the system until your password is entered. This is particularly handy for those moments you dash off for just a couple of minutes – long enough for a certain little someone to come along and add a few of his own 'helpful' additions to your work.

And here we are in what looks suspiciously like the Disney franchise of Jurassic Park. Each of the dashboard icons, meanwhile, calls up its respective desktop accessory.



Setting up new child accounts in *Launch Pad* is simple, barely harder than riding in Bingo's car: all you do is select the option you wish to modify and specify the new settings.

- **Price: £39.99. Out: now.**
- **Requires: Mac Plus or later, System 6.07 or higher, at least 2Mb of RAM (4Mb of RAM for System 7).**
- **For more details contact Gem Distribution on 01279 412441.**

MACFORMAT RATING **88%**

BUT WHAT ABOUT THE GROWN-UPS?

Fancy an alternative to the standard Mac Desktop that isn't exactly kid's stuff but is about as easy-to-use as you can get? Apple's *At Ease 2.0* provides such an environment, enabling novice Mac users to work without supervision. And by combining privacy and security features, this front-end is useful on any Mac used by more than one person.

At the heart of *At Ease* is a graphic, folder-based Desktop that is set up for individual users, each of whom is then given a password. The applications and documents you have access to are configured so that every time you start up your Mac you find a familiar front-end. You can disable specific menu commands in any of the available applications, but the whole System Folder is always hidden. When you quit an application you're returned to the *At Ease* Desktop. The use of speech and sound makes the environment friendlier still for the less technical user.

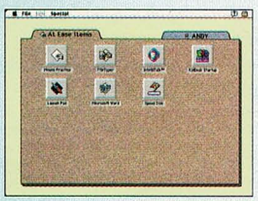
Although it is easy to use, the question is: 'Do you really want it?' After all, a push bike is easier to use than a car, but it isn't always a suitable alternative. Those users who progress to the FInder will have to learn a new system all over again. *At Ease* is a great piece of software, but why replace an operating system already known for its ease of use?

- **Price: £34, or free with new Performas. Out: now.**
- **Requires: any Mac, System 7 or higher, at least 2Mb of RAM.**
- **For more details contact Apple Computer on 0800 127753.**

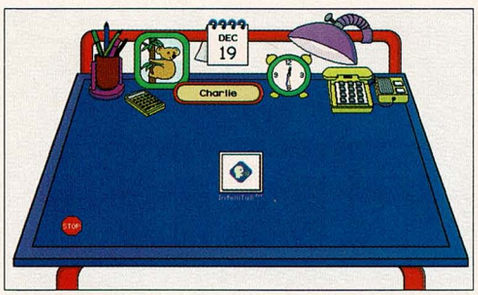
MACFORMAT RATING 82%

User "ANDY"
Security
Allow user to open and save:
Anywhere
Opens and saves allowed in any folder on any disk.
Only in user's folder
Opens and saves are only allowed in user's folder on startup disk.
Only on floppy disk
Opens and saves are only allowed on floppy disks.
Allow access to Finder
Cancel
Previous
Done

Security is simple enough to set up. It includes several handy features for limiting access to anyone else who might happen to use your machine.



At Ease's front-end replaces the Finder completely. Here, selected applications from the hard disk can't be accessed by this user.



Here's *Kid Desk's* opening screen, showing all the program's built-in modules and an application that's been assigned for young Charlie to use – you could also add documents here.

Kid Desk

Functionally, *Kid Desk* is almost identical to *Launch Pad*, but it is even easier to use. It requires no repeated use of passwords to configure, and you simply install it as a startup document in your System folder. And then every time your Mac is switched on, the *Kid Desk* Desktop appears – an automatic configuration that can be cancelled with a simple combination of keys.

Once loaded, *Kid Desk* is easily configured through a series of menus where you can allocate a personal Desktop for your child and designate the applications and documents he is to have access to. While *Kid Desk* doesn't have the added ingredients of animated landscapes and sounds for your child to explore, it does have a series of alternative Desktops and a handy calendar utility that can be used in a variety of different ways. This calendar acts as a diary, an appointments manager, a scheduler and a reminder – a suite of productivity programs that even us adults will find useful, especially at the attractive price of £35!

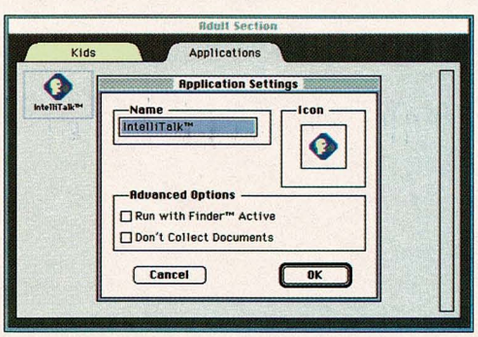
Just like *Launch Pad*, *Kid Desk* makes it easy to designate which applications and documents your child should have access to – you use a simple selector dialogue box. You can also include Desktop accessories into the proceedings. The supplied accessories – a clock, a calculator and a recorder – all come with voice annotation. In addition, you can assign startup sounds yourself to *Kid Desk*, so your child has his own personalised welcome.

Kid Desk can also be configured to include Finder access – if you trust your child's abilities to that extent – but once again, this can be set up to require password access for added security. *Kid Desk's* most innovative feature, though, is its provision for smaller children or kids with special needs; you're offered the facility to activate a single-switch form of entry. This enables a child to access *Kid Desk's* features with a single click of the mouse, as items on the Desktop are highlighted in sequence.

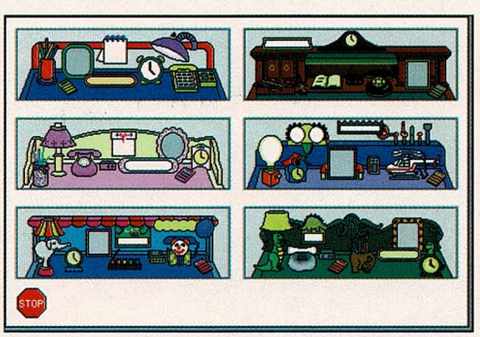
Another great feature of *Kid Desk*, which sets it apart from *Launch Pad*, is that you can build your own reminders into your child's activity – enabling you to create messages that pop up every Friday morning, for example, such as 'how about tidying up your bedroom'. This is precisely the kind of remote childcare that we long suffering parents have always dreamt of.

It's in this territory that *Kid Desk* excels – being less of an extended screen saver with security features, and more of an educational tool. For instance, you can add recorded messages to occur each time your child uses the built-in picture painting package, which is a small icon design utility; or configure the calculator to count only in threes – useful for those multiplication tables. And then there's the facility to use the clock as a timer, and the utility to use the recorder to store and play back messages via the phone icon for other children

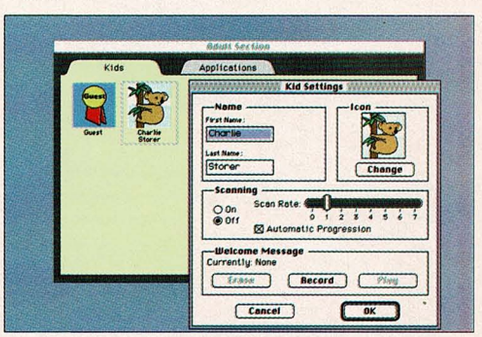
But the pride of place in this program just has to go to the Calendar module, which offers a whole range of diary, appointment and reminder functions.



You assign these applications and documents by entering the adult section of the program. You can specify exactly how any applications are going to run from within *Kid Desk*.



And since all kids, by the very nature of being kids, sometimes have a very short attention span and get bored, you can change their desktops as many times as you like.



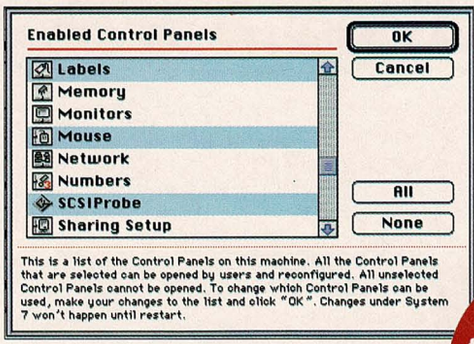
Setting up the preferences for your child is easy – you can even record a welcome message, or switch on scanning so the icons they can activate are automatically highlighted.

using the same Mac. But best of all is the calendar, which a number of parents will probably use on a regular basis! No longer will your child evade you by diving into a computer game...

As with *Launch Pad*, *Kid Desk* offers a secure cocoon for your child, keeping him away from your complex and easily destroyed Mac data. But *Kid Desk* falls down by not having a simple screen saver utility – one that requires a password to be added before the screen is re-activated. Apart from this little oversight, *Kid Desk* can be wholeheartedly recommended.

- **Price: £34.95. Out: now.**
- **Requires: a Mac Plus or later, System 6.07 or higher, at least 2Mb of RAM (4Mb for colour systems).**
- **For more details contact Iona Software on 0181 241 8925.**

MACFORMAT RATING **85%**


Enabled Control Panels
OK
Cancel
Labels
Memory
Monitors
Mouse
Network
Numbers
SCSIProbe
Sharing Setup
All
None
This is a list of the Control Panels on this machine. All the Control Panels that are selected can be opened by users and reconfigured. All unselected Control Panels cannot be opened. To change which Control Panels can be used, make your changes to the list and click "OK". Changes under System 7 won't happen until restart.

With *MacPrefect*, you can select which Control Panels the user can alter. Similar screens control Chooser devices, and what applications can be opened up.

MacPrefect 3.0

MacPrefect takes a totally different approach to protecting your Mac from the other three programs reviewed here. Instead of replacing the Finder with something simpler, it sticks with the normal Desktop, but gives you the ability to protect and control it.

MacPrefect comes in two main parts: an Extension that is installed in your System Folder, and a control program to configure and disable it. The control program should be run from a floppy disk, so you need to have this handy whenever you want to disable *MacPrefect*. This not only stops people trying to hack the program, but more importantly, stops you from accidentally locking yourself out of the program!

Check out the fully-usable demo of *MacPrefect 3.0* on this month's cover disk

When you open the control program, you are presented with a screen with 11 buttons, each controlling a different aspect of the program. Clicking on a button enables you to alter the settings, some of which take effect immediately, and some of which require you to restart the Mac.

MacPrefect gives you full control over every

KEEPING THE KIDS UNDER CONTROL...

We recently visited Caludon Castle School in Coventry, a medium sized school that was one of the first comprehensives in the country. The school has around 50 Macs, ranging from LCs right up to a spanking new AV PowerMac 7100. We asked Richard Healy, the school's computer boffin, what made them chose to install and run *MacPrefect* on most of their Macs.

'We've been using *MacPrefect* since we first started getting our Macs about three years ago. It was apparent as soon as pupils had free access to the machines that we were getting into difficulties with stuff appearing all over the Desktop. Kids were also in the System Folder and Extensions were going missing. Immediately we realised this was an issue we needed to deal with.'

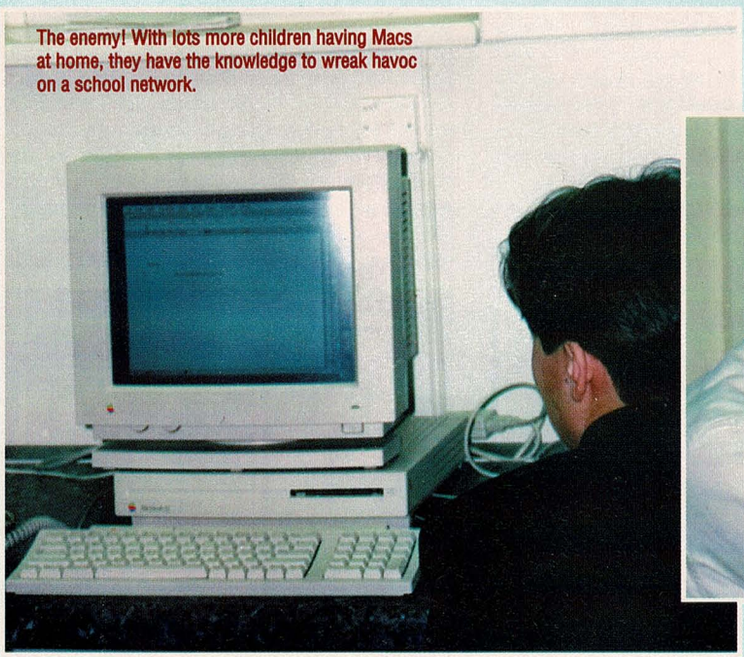
Shops like Dixons defend their Macs with *At Ease*. Richard Healy had other ideas: 'I don't like *At Ease* because it defeats the purpose of the Desktop. We're giving students experience of the complete system. We want them to learn about the Finder and be able to see things even if they can't change them. We give them the ability to explore with the confidence that they won't damage anything.

'I also like the idea of Folder Sweep deleting files automatically. Kids respond to the idea of saying that the computer will delete their stuff. If I say I'm going to wipe their files off, they say, "please don't do that". There's no judgmental thing to the computer doing it automatically, and the kids respond well to that.'

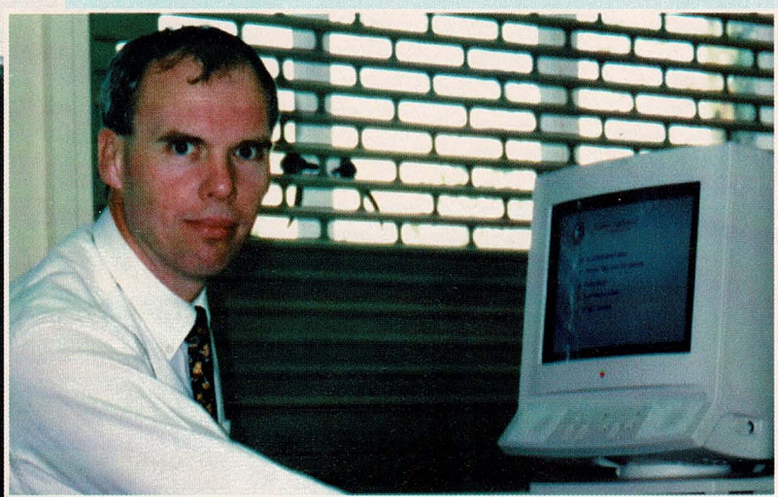
It wasn't difficult to disable *MacPrefect* temporarily, so that the staff could access the computer, Richard said – although they did have to take some precautions. 'We can't use *Shifty* as some of our kids have Macs at home. We use *MacVisa* and log on as a super user which immediatley disables *MacPrefect*.'

Overall, Richard was well pleased with *MacPrefect*. 'It is a piece of software that I think is worth investing in, and is cost effective because otherwise our systems would fail in a short time. If at the end of each day we have to take an hour to fix a machine, that time would pay for a copy of *MacPrefect*. Because of buying in such bulk, the price rapidly comes down. It also avoids the situation of 30 students waiting outside a classroom while we fix the computers.'

'We tried an experiment once. We said to a class to stop what they were doing because we wanted to check out the computers. They lasted about 30 seconds before the overwhelming desire to get on with whatever they were doing took over. It wouldn't be practical to run our machines without *MacPrefect*. There is nothing we need that it cannot do.'



The enemy! With lots more children having Macs at home, they have the knowledge to wreak havoc on a school network.



Richard Healy is commited to using Macs in education. But do children appreciate the fact? It was different in my day you know...

imaginable part of the Desktop. It is squarely aimed at educational sites, and is absolutely ideal for this, as the box on Caludon Castle School shows. But any organisation could make use of the program, and many parents will find it ideal for letting their children learn about the Finder in a safe environment.

MACFORMAT Classic

- **Price: single copy £41.15, education £32.90, large discounts on multiple copies.**
- **Requires: any Mac, System 6.0.4 or later. PowerMac native.**
- **For more details contact Hi Resolution on 0892 891291**

MACFORMAT RATING **92%**

ADDITIONALLY

There are several optional add-on products from Hi Resolution, designed to expand *MacPrefect*. These include *DiskPrefect*, which gets around the problem of people booting from a floppy disk. Even if they try it, this program locks the hard disk, so that no changes can be made. *DiskPrefect* costs £20.50 with discounts for bulk and education.

MacPrefect Remote enables the administrator to configure or disable *MacPrefect* across a network. Rather than visiting each machine to alter *MacPrefect*, any number of Macs can be controlled from a master machine. *MacPrefect Remote* also costs £20.50, with discounts for buying in bulk and for education.

MacVisa is a separate stand-alone product designed to keep track of exactly who is using what Mac and when. Sophisticated options include denying access to certain users at set times, and logging a user's activity, including the number of print-outs.

The reason for its mention here is that it's designed to work in conjunction with *MacPrefect*. It does not interfere with it, and logging on to *MacVisa* with the master password instantly disables *MacPrefect*. *MacVisa* costs £440 plus £23.50 per user – again with discounts for buying in bulk or for education.

MACPREFECT 3.0 MAIN TOOLS WINDOW

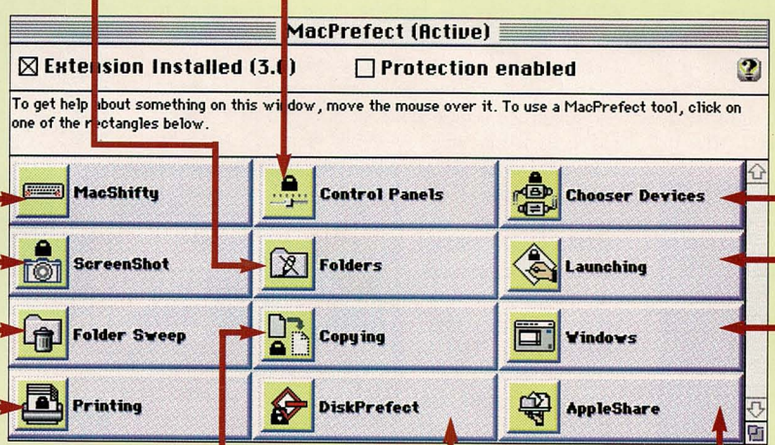
MacShifty: if you start up a Mac with the **[shift]** key pressed down, it turns off all the Extensions. Bearing mind that part of *MacPrefect* is an Extension, it is vital to prevent this, especially as many children now have Macs at home and are becoming very knowledgeable about their use. This tool disables that abilty at startup, ensuring that all the Extensions and Control Panels load as usual.

Folders: you can selectively lock any folder on your hard disk. This still allows people to open the folder and access its contents, but the user cannot add, move or alter files in any way. Probably the most important folder to lock will be the System Folder, so that users can still see what is inside, without being able to tamper.

Chooser Devices: this tool gives you complete control over which Chooser devices can or cannot be used. This is very useful for allowing users access only to certain types of printers, preventing them from using an expensive colour printer. Because Appleshare is a chooser device, preventing access to that means users would no longer be able to log on to file servers on the network.

Control Panels: using this tool, you can select individual Control Panels that users will be able to access and use. Alternatively, a click of the mouse can disable all Control Panels in one go for total security. The abilty to be selective enables you to disable sensitive Control Panels such as Sharing Setup and Memory, while giving users the responsibilty to change the time. Interestingly, with System 7.5 you can't lock the Desktop Patterns Control Panel because it's not a Control Panel at all!

ScreenShot Lock: you can take a screenshot of your Macintosh screen at any time by holding down **[command] [shift] 3** at the same time. This creates a graphics file on your hard drive. Unfortunately children can get carried away, leading to dozens of pictures eating up hard disk space. This tool disables that screenshot function.



Launch Control: allows the contoller to define exactly which programs can be open by users and which ones cannot. A particularly good feature, intoduced for the first time in this version, is the abilty to prevent applications being launched from a file server, which used to be a way around this tool for experienced users.

Folder Sweep: this versatile utility enables you to delete files off the hard disk automatically. In practice, this means you can create a folder for students to save their work in, and then set the program up to delete files when they reach a certain age. You can also set it up so that as new files are saved, the oldest ones are deleted, always maintaining a specific amount of free hard disk space.

Window Control: schools find it particularly important that every machine looks identical when it starts up. It can be very confusing if loads of windows open up that were left open when the last person shut down. This tool either stops all windows from opening at startup, or justs opens the hard disk window automatically

Copy Control: stops users from copying specific things off the hard disk. This is particulalary effective at stopping people from pirating your applications. It can also stop people copying Extensions, Control Panels, *HyperCard* stacks, System files and, perhaps most usefully of all, fonts.

AppleShare: when a user logs on to a remote file server, there is an option which causes the Mac automatically to log back on to that server every time the computer is restarted. This is not only annoying and time consuming, but confusing for beginners. This tool stops the Mac from automatically logging on to file servers.

Print Control: most teachers and parents will have experienced the situation where a child atempts to print eight copies of a document, only to print 88 by mistake. This tool limits the number of copies that can be printed at one go.

Disk Prefect: this is an optional extra that is available for protecting Macs against those people with a lot of Mac knowledge. The one way to by-pass *MacPrefect* is to boot from a floppy disk so that the Extension never loads. This utility will cause the hard disk to lock completely when this is attempted. Files can still be seen and accessed, but no changes can be made.

How capable is your child?

The new version of the National Curriculum contains a subject called IT Capability. What is it? And what does it mean for your child's education? Phil Moore explains...

In January this year a significant document dropped through school letterboxes throughout England and Wales: the new, slimmed-down National Curriculum. Included in this document is a subject called 'IT Capability'. This lays down guidelines for what children should be learning about computers and computer-related technology at school.

This new revised National Curriculum will come into effect in September this year, and will remain unchanged for the next five years – or so we've been promised, anyway. So what it contains will have a considerable impact on how your child will be using computers and communicaton media at school.

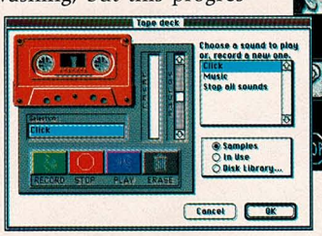
Of course, learning doesn't have to stop when your child leaves the classroom: the Mac that you have at home can play a significant role in your child's education as well. But in order for you to have an influence in your child's studies, you need to have an understanding of what teachers are attempting to do. So what is this IT Capability, and how can you help your child's progress in it?

Macs like the 630 provide most of the facilities that children need to play around with words, sounds and images.

What is IT Capability?

The first thing to realise is that the term 'IT' doesn't just refer to the computer: it refers to anything that uses electronic means to store, process, manipulate or communicate information, or to control other machines. Therefore video recorders, camcorders, telephones, fax machines, photocopiers, and even washing machines are all included in the definition. So teachers won't just be concentrating on computers, although many computers now incorporate many or all of these forms of IT – apart from the washing machine part, of course.

For Mac owners and users, this cross-over of technology is very good news. Macs like the 630 range provide facilities that enable you to record and play video, television and audio; send and receive faxes; and connect to bulletin boards and networks such as the Internet. As yet, they can't help you to program your video or to do your washing, but this progression can only be a matter of time...



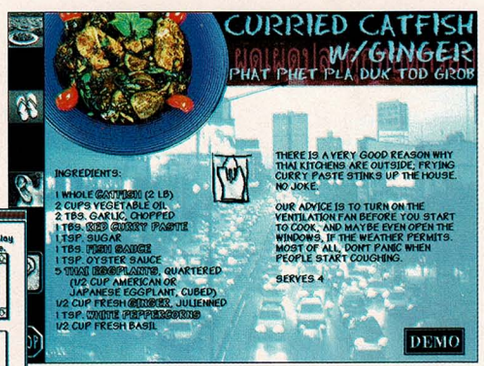
Use a multimedia program to edit together images, words and sounds from a favourite TV program or home video footage.

What Macs *can* enable your child to do now is to manipulate words, images and sounds relatively easily. This is true whether they are produced by the child on-screen or captured from TV, video, audio CD, CD-ROM, or a QuickTake camera. And these words, sounds and images can then be communicated with other people down the road or on the other side of the world.

Why is that important? After all, not every child will go on to get a job where those skills are used frequently. But remember that a child who started school last September won't be eligible to leave school until June 2005 – assuming that the law relating to compulsory schooling remains the same. Given what has happened to the use of computers and computer-related technology in the last ten years, who can say what the future holds for today's children? All we can be sure of is that IT will continue to increase its impact on everyday life.

Rather than training children to use a specific technology – which will, in all probability, be superseded – teachers are attempting to focus on the skills and abilities that children will need whatever the state of IT. Although no definition is given of IT capability in the new curriculum documents, it is stated that an IT-capable child will be able to use IT tools and information sources in various ways – to solve problems; to support their learning in a range of ways; and to understand the implications of IT in their own and in others' lives.

Children are therefore being asked to do things like grabbing words, sounds and images from a wide range of sources, playing with them and incorporating them in their own projects. They are being asked to use IT to find things out and to communicate what they know; to understand when IT saves time and

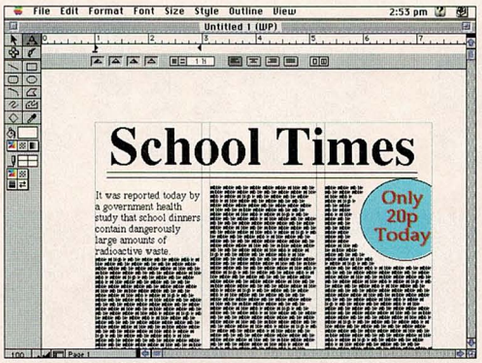

CURRIED CATFISH
W/GINGER
PHAT PHET PLA DUK TOD GROB
INGREDIENTS:
1 WHOLE CATFISH (2 LB)
2 CUPS VEGETABLE OIL
2 TBS. GARLIC, CHOPPED
1 TBS. RED CURRY PASTE
1 TSP. SUGAR
1 TBS. FISH SAUCE
1 TSP. OYSTER SAUCE
2 THAI EGGPLANTS, QUARTERED
(1/2 CUP AMERICAN OR JAPANESE EGGPLANT, CUBED)
1/2 CUP FRESH GINGER, JULIENNED
1 TSP. WHITE PEPPERCORNS
1/2 CUP FRESH BASIL
THERE IS A VERY GOOD REASON WHY THAI KITCHENS ARE OUTSIDE. FRYING CURRY PASTE STINKS UP THE HOUSE. NO JOKE.
OUR ADVICE IS TO TURN ON THE VENTILATION FAN BEFORE YOU START TO COOK, AND MAYBE EVEN OPEN THE WINDOWS, IF THE WEATHER PERMITS. MOST OF ALL, DON'T PANIC WHEN PEOPLE START COUGHING.
SERVES 4
DEMO

Kids can collect information from multimedia packages like *Four Paws of Crab* to write their own recipe books.

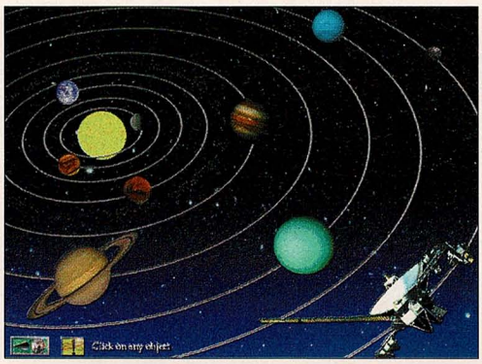
HOME LEARNING

Whenever you're working with your child at your Mac, there are a few points to bear in mind:

- Try to find links with things that your child finds interesting rather than setting up some 'work'.
- Make the activities fun.
- Don't be negative: praise what your child can do, rather than criticise all the time.
- Make the work collaborative – let your child make some decisions.
- Talk about what you are doing, say why you are doing things and invite your child to do the same.


School Times
It was reported today by a government health study that school dinners contain dangerously large amounts of radioactive waste.
Only 20p Today

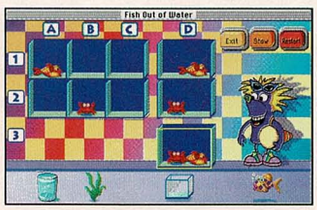
Under the new curriculum, pupils have to learn about Desktop Publishing. Fortunately programs like *ClarisWorks* are perfectly adequate for this task.



Science lessons can be greatly helped by the use of CD-ROM titles such as *Voyage Through the Solar System*. They teach children and help to make lessons more varied.

Even art lessons are affected now, but with the Mac being the leading graphics machine, children are spoilt for choice with programs like *Dabbler* and *Painter*.

Why not plan your holiday with a spreadsheet? Your child will learn how much it costs, as well as learning about the spreadsheet itself ...



when it does not; and to think about how IT changes attitudes towards, and access to, information and other people.

How will schools teach IT?

The new curriculum requires that IT is used in all subjects, as and where appropriate. The focus for this subject-based use is not the technology itself, but rather what it can do to help your child to learn about the subject. So, for example, using the Internet to collect satellite weather images in geography will help your child understand the weather; using a graphical calculator in maths will help your child explore and understand relationships between numbers; using a database in science will help your child create and test theories about the world. Your child will also learn something about how IT works, particularly if given opportunities to think about how these things might be achieved *without* the use of IT.

But lots of schools have inadequate resources to give children full access to IT; many schools are still struggling with old computers. Department of Education statistics state that, on average, there are 19 children for each computer in schools. This ratio looks good when compared to many other countries, but it hides the fact that many of those computers are over five years old. And it doesn't tell you that there is no national program of training for teachers to help them learn how to use IT effectively in their teaching...

For these reasons, many schools provide specific courses on IT as the only way of ensuring that all children have some access.

Where do you come in?

If you have a Mac at home, there are a number of things that you can do to help your child's progress in IT Capability. In the first instance, it would be worth speaking to your child's teacher(s) to ask for specific ideas. Even if the school does not use Macs, you can still help. For example, it may be possible to transfer files between machines on floppy disk or via a modem connection to the school.

Alternatively, there are programs available for a range of computers; it could be useful to have programs at home that your child will also use at school. Your child's teacher may also be able to discuss programs that you may be thinking of buying, and give you some idea of their appropriateness.

Children can take pictures of their friends acting out a story and then turn them into a picture book or 'talking book' using the Mac.

The most important thing you can do to help is to make time to work on the Mac with your child. Whether it's playing a game or writing a joint letter, it's the discussions you have that are most productive. Discuss what you're both doing and why – it's important your child sees how you use the Mac and for what, as well as why you choose to use it, and what benefits or drawbacks its use brings. See the 'home learning...' box for ideas for joint activities.

MACFORMAT regularly reviews educational software and rates it on its educational value in supporting learning at home and at school.

You can also contact organisations such as the National Council for Educational Technology (01203 416994) to ask for information. It produces leaflets and other resources for parents. It also has an information department that just might be able to help with specific enquiries.

Phil Moore

AND THE HAPPY MAC

- Ask your child questions about what he is doing, but try to phrase them so that the questions don't require a simple 'yes' or 'no' answer.

If you want to try activities that connect closely with the National Curriculum, you could consider these:

- Create an advertising campaign for a favourite TV programme or book.
- Read 'talking books' together – both the electronic and printed versions – and compare them.
- Keep weather information on a database and use it to produce a weather forecast.
- Create a multimedia letter to a grandparent or friend.
- Plan a family holiday budget using a spreadsheet.
- Search CD-ROMs, bulletin boards or the Internet together for information to help with homework.
- Record favourite recipes in a database and use it to plan a week's menu, or produce your own recipe book.
- Create a story using images taken from CD-ROMs, from the Internet or from home video footage.

JARGON BUSTERS

IT: Information Technology. The term includes fax machines, telephones, video/audio tape-recorders, and camcorders as well as computers.

Key Stages: there are four Key Stages (KS) in the National Curriculum: KS1 covers children 5-7; KS2 8-11; KS3 12-14; and KS4 15-16.

National Curriculum: provides the framework for the curriculum in all schools in England. However, Wales, Northern Ireland and Scotland have their own curriculum frameworks, which contain similar elements.

NCET: the National Council for Educational Technology, a government-funded organisation that promotes and develops the use of IT in all areas of education and training. Contact them on 01203 416994 or log on to their WWW server at **http://ncet.csv.warwick.ac.uk/WWW/menu/index.html**

SCAA: the School Curriculum and Assessment Authority, the quango (or Quasi-Autonomous Non-Governmental Organisation) responsible for deciding what goes in the National Curriculum and how it is assessed.

Peter and the Wolf

Combine Bugs Bunny's animator with Prokofiev's classic musical tale, and you get a CD-ROM for today's kids, says *Classic CD* editor Rob Ainsley.

Here is the title screen. As you move the cursor over a figure, Peter's voice (Ross Malinger, Jonah in *Sleepless in Seattle*) tells you what will happen if you click on it.

One of the questions most frequently asked of record shop owners is, 'What's the best CD I can buy to get my children interested in classical music?' The best answer has always been Prokofiev's *Peter and the Wolf*.

Prokofiev's narrated story (which he wrote himself) has orchestral interludes in which the principal characters have their own little tunes: a flitting, darting flute for the bird, a grumpy bassoon for Grandad, confident strings for Peter, and so on. Children of all ages consistently love it much more than other composers' efforts, like Britten's worthy but stuffy *Young Person's Guide to the Orchestra*.

Chuck Jones's animation is stylish and cleverly tailored to the Mac. And yes, the duck does look like Daffy…

Peter and the Wolf has been narrated on record for years now – by Ralph Richardson, Ian McShane, Angela Rippon, Paul Scofield and Terry Wogan, among others. But these days classical music has a lot of competition. Children's attention is diverted by rock and pop, by television, and increasingly by computers and consoles. So what better way to beat 'em than to join 'em?

Time Warner's new CD-ROM involves an animated version of *Peter and the Wolf* by Chuck Jones, famous for Bugs Bunny, Daffy Duck, etc. It also includes what's promised as an interactive guide to the orchestra, and even a computer game involving the story's characters. There's also a bonus audio CD with a full performance of the music.

As you'd expect, it's very, very slick. Jones's animation, which tells the story in 33 animated pages, is stylish and cleverly tailored to the restrictions of a Mac screen. And yes, the duck really does look like Daffy's brother. You can choose **Auto** to play the whole story through (it lasts about half an hour), or you can select **Manual** to pause at the end of each page. This function is useful for younger children because you can ask them questions before proceeding such as, 'What do you think Peter's going to do now?'

The story has a couple of rather sentimental additions to the original – for instance, Grandad didn't end up saying 'I love you, Peter' when Terry Wogan narrated it – but otherwise it isn't too American. The CD also doesn't try to push the music at you too hard. This is a good thing: the music should be absorbed almost unconsciously during the tale; there's plenty of chance to explore it in detail in the Orchestra section or on the other CD.

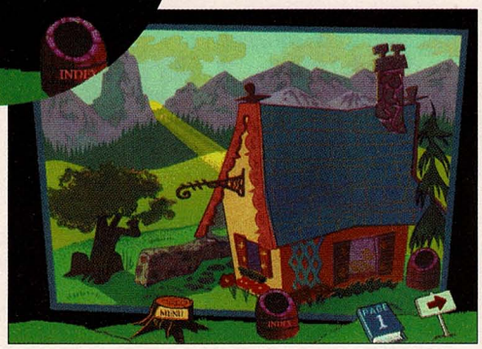
In the Orchestra section you can click on any of the characters and listen to their tunes. Other clicks enable you to explore a short description of the instrument and its family, to watch and hear it being played on screen. A very nice touch is that every tune can be heard on a selection of instruments: you can, for example, hear the bird's agile flute tune played on the French Horn. Comically badly of course, which is no reflection on the player – the instrument simply can't play quickly enough to keep up with the music. This section is very good for demonstrating the character of each instrument – what it can and can't do, for example.

The Log Jam game (*Frogger* – remember that? – in all but name) reinforces your impression of the characters from the tale and adds a harmless bit of fun. It isn't too hard for younger kids either.

What about interactivity? Well, apart from the game there's not very much on offer; it's all click and watch or click and listen. And there's no scope for creativity. It would have been a lot more involving if you were able to play your own tunes on the instruments, for example, or have some influence on the story itself. Every run of the program will be the same, which might count against it in the long term.

But then again, what is on the CD is absolutely superb, and will surely appeal to kids more than the music alone ever did – and that had a great appeal to start with. Prokofiev would probably have been delighted with it, apart from one small but significant fact: according to the CD-ROM, he died in 1956. Let's hope not – he was buried in 1953. *Rob Ainsley*

As you move the cursor over a character, its instrument lights up. You can click and hear the appropriate tune.



Morning by the Matterhorn. Peter's adventure, narrated by Kirstie Alley (Rebeccah Howe in *Cheers*), is about to begin.

PETER AND THE WOLF

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MACFORMAT RATING 83%

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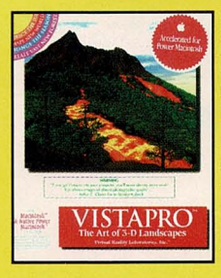

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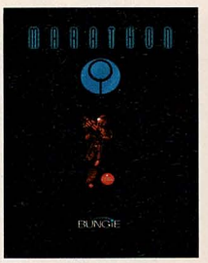

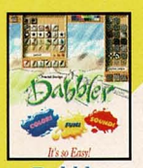

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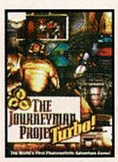

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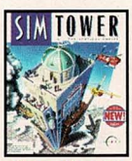

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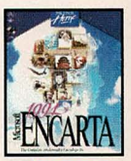

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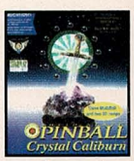

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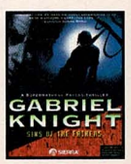

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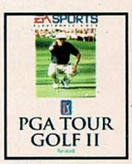

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Ringing the changes

This Easter all old phone numbers will cease to work. John Lewis explains how to update your databases in preparation for Phoneday '95.

Next Easter Sunday is also Phoneday. This is the day when all UK telephone numbers will change to ensure that there are enough dialling codes and numbers to last into the next century. In fact you've been able to use the new numbers from 1 August 1994; they've been running alongside the old ones. But from 16 April this year they will be mandatory rather than optional.

People with exchanges, memory phones and the like will have to reprogram them, and printers are probably rubbing their hands in glee at the thought of all the extra business which will come their way as people have their stationery reprinted.

At a more mundane level it means that you have to change all your databases so that the numbers in them are correct. No doubt consultants are dashing around the country claiming they can do this for you at exorbitant charges. Yet you should be able to do it yourself without too much difficulty or effort – over the next few pages we'll show you how. Even if the database you use isn't covered here the same general principles apply.

What's happening?

The major change to numbers is that a 1 is inserted after the initial 0 – so 071 becomes 0171, 0865 becomes 01865 and so on. This is all relatively simple and shouldn't cause too much trouble. But there are five exceptions: Bristol, Leeds, Leicester, Nottingham and Sheffield. These are getting totally new dialling codes plus an extra number in front of existing individual numbers. The result is that 0272 changes to 0117 9; 0532 to 0113 2; 0533 to 0116 2; 0602 to 0115 9; and 0742 to 0114 2.

Some numbers, such as mobile phones, freephone and premium rate services, do not change. These have not been dealt with here, nor has any account been taken of the fact that the international access code is changing from 010 to 00.

Don't forget to change fax numbers as well as voice numbers!

To change the numbers in a database you will need a calculation similar to this:

```
If the first four digits = 0272 they
have to be replaced by 0117 9
  Else if the first four digits = 0532
they have to be replaced by 0113 2
  Else if the first four digits = 0533
they have to be replaced by 0116 2
  Else if the first four digits = 0602
they have to be replaced by 0115 9
  Else if the first four digits = 0742
they have to be replaced by 0114 2
  Else the first digit has to be re-
placed by 01
```

Now let's see how to do these changes for *ClarisWorks 2.0*, *FileMaker Pro*, *Microsoft Works 4.0*, *Helix Express*, *Excel* and free-form databases such as *QuickDex*. Needless to say these changes should only be made on a copy of your original file, just in case something should go wrong. In all cases the assumption has been made that you do have some knowledge of the database you will be using.

Before you start, do a count of how many numbers you need to change. It may sound like heresy but it could well be quicker to do it manually than spend time writing a routine. When the London numbers went from 01 to 081/071 I spent ages thinking about ways of doing it on our database, which had several thousand names on it. By the time I was ready to start 'programming' one of the secretaries had changed most of them herself by just going through, eyeballing them and typing the new number into place!

ClarisWorks

You might think that you could use the **Find and Change** feature in *ClarisWorks*. Unfortunately not. If you **Find 0** and change it to 01, you get problems if you have a 0 in the middle of a number. For example, 081 210 3409 would become 0181 2101 34019 – which is not what you wanted. So you have to resort to the calculation fields instead.

With *ClarisWorks* the amount of text you can enter into the calculation box is limited, and you can't use all the **If** statements in one go. So you have to do it in stages. It can get a bit tedious, but once you have the idea then it's not too bad. The first thing to do is to create six new calculation fields – I named mine 'Number after 01', 'Bristol', 'Leeds', 'Leicester', 'Nottingham', 'Sheffield'. 'Original number' refers to the phone number field which is already in the database.

In the first new field – 'Number after 01' – we replace the initial 0 from the existing phone number with 01. Then in each subsequent field we test to see if the number belongs to that particular city. If it does then we alter it to the new number. Since BT would prefer the numbers presented in a certain way the result has to be formatted using the **CONCAT** function.

The **REPLACE** calculation is used to start off with, and this goes into the first new calculation field. You need to replace the original phone number with the new one. Start at the first numeral in the phone number, and change only this numeral. See below, and note that the new number is enclosed by quotes.

Formula
REPLACE('Original No';1;1;"01")

This is the initial formula in *ClarisWorks* to replace the leading 0 of the original phone number with 01.

So now we've changed all the initial occurrences of 0 to 01. That's sorted out most of the numbers in the database.

Next we need to start dealing with the exceptions, remembering that they are now 01272, 01532, etc. The formula for the Bristol field is as follows:

```
IF(LEFT('Number after
01';5)="01272";CONCAT("0117 9";MID
('Number after 01';7;2);" ";MID
('Number after 01';9;4));'Number
after 01')
```

Here we look at the first five digits of the changed number and match them against the old code for Bristol – 01272. If this condition is met, then we concatenate the new dialling code with the remainder of the old number using the MID function to pick out the bits we need to go in each position. If the number is not a Bristol number, then we revert back to the new, changed number.

A similar process is subsequently used for each of the other exceptions. The individual formulae for these calculation fields are shown below in full:

Leeds

```
IF(LEFT('Bristol';5)="01532"; CON-
CAT("0113 2";MID('Bristol';7;2);"
";MID('Bristol';9;4));'Bristol')
```

Leicester

```
IF(LEFT('Leeds';5)="01533";
CONCAT("0116 2";MID('Leeds';7;2);"
";MID('Leeds';9;4));'Leeds')
```

Nottingham

```
IF(LEFT('Leicester';5)="01602";
CONCAT("0115 9";MID('Leicester';7;2);"
";MID('Leicester';9;4));'Leicester')
```

and finally Sheffield

```
IF(LEFT('Nottingham';5)="01742";CONCAT
("0114 2";MID('Nottingham';7;2);" ";
MID('Nottingham';9;4));'Nottingham')
```

The final result looks like this: the original Inner London number has flowed through all the other checks and ended up correctly in the 'Sheffield' slot. If we put a Sheffield number in as the original then it remains unchanged, except for the leading 01, until it reaches the Sheffield position.

City	**Inner London**
Original No	**071 432 8765**
Number after 01	**0171 432 8765**
Bristol	**0171 432 8765**
Leeds	**0171 432 8765**
Leicester	**0171 432 8765**
Nottingham	**0171 432 8765**
Sheffield	**0171 432 8765**

Ripple-through of an 071 number which, after being converted, remains as it goes through the calculations for the excepted towns of Bristol, Leeds etc.

City	**Sheffield**
Original No	**0742 123456**
Number after 01	**01742 123456**
Bristol	**01742 123456**
Leeds	**01742 123456**
Leicester	**01742 123456**
Nottingham	**01742 123456**
Sheffield	**0114 212 3456**

Ripple-through of an 0742 number for Sheffield, showing how it remains unchanged until it finally reaches the calculation field for Sheffield.

The next step is to change the Sheffield field from a calculation field to a Text field, relying on the property of *ClarisWorks* that if you change a field it will try to retain the contents. Once you're certain that everything is fine, you can delete the original phone number field and the five other fields which were created. From now on in you will be entering the new numbers correctly.

The final result is:

City	**Leeds**
Original No	**0532 123456**
New Number	**0113 212 3456**
City	**Leicester**
Original No	**0533 123456**
New Number	**0116 212 3456**
City	**Nottingham**
Original No	**0602 123456**
New Number	**0115 912 3456**
City	**Sheffield**
Original No	**0742 123456**
New Number	**0114 212 3456**

Examples in *ClarisWorks* compaing the original number with the converted number in the final database.

In these the original number has yet to be deleted. This means you can double-check before you get rid of it for good.

FileMaker Pro

For *FileMaker Pro* things are a lot easier since the calculation field can hold a lot more. The formula which needs to be entered is:

```
If (Left (Original number; 4) =
"0272";"0117 9" & Middle (Original
number;6;2) & " " & Middle (Original
number;8;4); If (Left (Original num-
ber; 4) = "0532";"0113 2" & Middle
(Original number;6;2) & " " & Middle
(Original number;8;4); If (Left (Orig-
inal number; 4) = "0533";"0116 2" &
Middle (Original number;6;2) & " " &
Middle (Original number;8;4); If (Left
(Original number; 4) = "0602";"0115 9"
& Middle (Original number;6;2) & " " &
Middle (Original number;8;4); If (Left
(Original number; 4) = "0742";"0114 2"
& Middle (Original number;6;2) & " " &
Middle (Original number;8;4); Replace
(Original number; 1; 1;"01"))))))
```

Again we're checking for the dialling code. If it matches the particular city then we are putting the number into the format required. If none of the tests give a result the **else** statement of the nested **If's** returns the original number with the initial 0 changed to 01.

To freeze the results you can change the field type from Calculation to Text. But since this is much simpler than before, you may like to keep this new field on your database so that any old form numbers you now enter are converted. If you do this, do a check to ensure that should you enter a new style number this is not converted. This is easily achieved using an **If** function to check whether the first two digits are 01. If they are, then the number is not changed. If they aren't, then the above formula is applied. It looks like this:

```
If (Left (Original number; 2)="01";
Original number; If (Left (Original
number; 4) = "0272";"0117 9" & Middle
(Original number;6;2) & " " & Middle
(Original number;8;4); If (Left (Orig-
inal number; 4) = "0532";"0113 2" &
Middle (Original number;6;2) & " " &
Middle (Original number;8;4); If (Left
(Original number; 4) = "0533";"0116 2"
& Middle (Original number;6;2) & " " &
Middle (Original number;8;4); If (Left
(Original number; 4) = "0602";"0115 9"
& Middle (Original number;6;2) & " " &
Middle (Original number;8;4); If (Left
(Original number; 4) = "0742";"0114 2"
& Middle (Original number;6;2) & " " &
Middle (Original number;8;4); Replace
(Original number; 1; 1;"01")))))))
```

Microsoft Works

Microsoft *Works* is not so amenable to such automated routines; here most of it has to be done by hand. As you may know, the actual address book used in Microsoft *Works* is based on a spreadsheet and if you you go to the **View** menu and select **List View** you'll see the cells of the modified spreadsheet. Unfortunately this does not support any functions, so you can't use logical statements; these are only available in the spreadsheet module, but that doesn't support text format, so all your numbers lose the leading 0...

I also considered using the Macro facility, but that didn't work as expected. So it was back to the drawing board. In the end the only apparent solution was to sort the database in the cell format – the consolation being that address book does differentiate between area code and number, provided you have used the default fields. So things aren't all that bad – once you know what you're doing it's still better than eyeballing everything.

Area code1
0272
0272
0272
0532
0532
0703
0703
071
071
081
081
0865
0865
0865

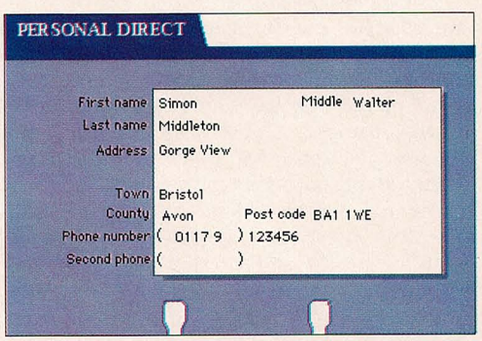
Microsoft *Works* – the Area Code field in List view after being sorted. By doing this similar numbers are placed together ready for changing.

Once you have the numbers sorted like this, you can change the first one of the sequence and then use **Fill Down** from the edit menu to give the final result:

Area code1
0117 9
0117 9
0117 9
0113 2
0113 2
01703
01703
0171
0171
0181
0181
01865
01865
01865

Microsoft *Works* – the Area Code field in List view after the numbers have been changed manually.

Then go back to **Data View** and your address book is ready for use. You may find that the new, expanded numbers are too large to fit between the brackets. If this is the case, then you'll need to go into **Design View** and change them accordingly.



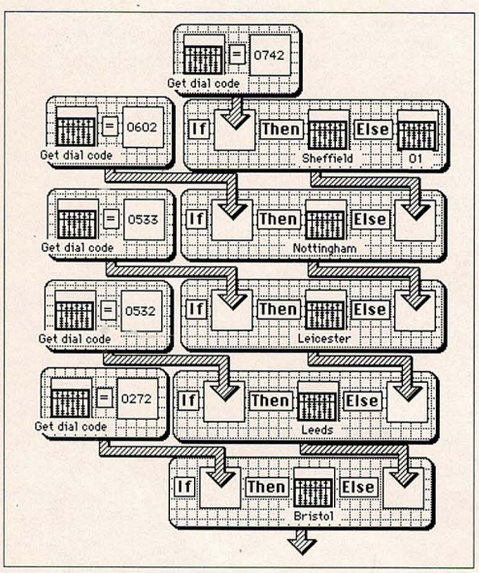
Here's a card from the address book in Microsoft *Works*, showing the changed number in the area code. Note that the space between the brackets has been expanded so that it will accommodate the new number.

Helix Express

Helix Express users will recognise the following abacus as a part of what's needed to convert numbers on their databases. Essentially **Get dial code** extracts the first four digits from the original number. This is then compared with the exception numbers, and if it matches then the appropriate town abacus returns the new dialling code plus the remainder of the number. Any that slip through are dealt with by the 01 abacus, which will either change all other num-

bers beginning with 0 to 01 or pass the remainder through unchanged.

If you're not familiar with *Helix Express*, it is a fully relational database that uses an iconic interface. Essentially you set up a 'flowchart' of the operations you need to perform. There is no code to be written and the whole thing is really simple to use and understand.



Helix Express uses an abacus for comparing existing dialling codes with exceptions and for converting to new numbers.

QuickDex and others

If you're using a free-form database, such as **QuickDex** or a word processor, things are not quite so easy. The numbers may not be in any particular place from one record to the next. The only way to cope with this is to use something like AppleScript to do the work for you.

This means a bit of programming, but since AppleScript is now available it is an easy tool to use – provided you read the manual and think logically. If you want a good reference book then *The Tao of AppleScript* published by BMUG is recommended. If you have done any programming in *HyperCard*, there are similarities – though HyperTalk offers more functions.

The major drawback to AppleScript use is that only a very few applications are AppleScript aware. The version of **QuickDex** which I use isn't – and I doubt if your favourite word processor is either. The best thing to do is to cut and paste the data into the Scriptable Text Editor that comes with AppleScript. But be aware that this has an upper limit of 32,000 characters, so you might have to do the conversion in several parts.

```
set X to 0 –Next word counter
set C to 1 –Defines word counter

tell window 1 of application "Script-
able Text Editor"
  activate
  repeat with C from 1 to (count
  words)
      if word C = "0272" then -
      Bristol
        set word C to "0117 9"
        set X to C + 1
      else if word C = "0532" then –
      Leeds
        set word C to "0113 2"
        set X to C + 1
      else if word C = "0533" then –
      Leicester
        set word C to "0116 2"
        set X to C + 1
      else if word C = "0602" then –
      Nottingham
        set word C to "0115 9"
        set X to C + 1
      else if word C = "0742" then –
      Sheffield
        set word C to "0114 2"
        set X to C + 1
      else if (word C begins with "0"
      and (C ≠ X + 1)) then – other
      codes
        delete character 1 of word C
        set word C to ("01" & word C)
        – rebuild new code
        set X to C
      end if
  end repeat
end tell
```

In the Scriptable Text Editor the test numbers used looked like this before the script was run:

```
Inner London 071  05627
Outer London 081  4567
Leeds 0532 0123456
Oxford 0865 056789
Bristol 0272 0123456
Southampton 0703 34123
Leicester 0533 0123456
Nottingham 0602 0123456
Sheffield 0742 123456
Portsmouth 0705 123456
end of file dummy 0987 1234
```

Example of a free-form database with names of towns and phone numbers. Note the end of file dummy record.

And after:

```
Inner London 0171  05627
Outer London 0181  4567
Leeds 0113 2 0123456
Oxford 01865 056789
Bristol 0117 9 0123456
Southampton 01703 34123
Leicester 0116 2 0123456
Nottingham 0115 9 0123456
Sheffield 0114 2 123456
Portsmouth 01705 123456
end of file dummy 0987 1234
```

The free-form database with names of towns and phone numbers after conversion by the Apple Script routine.

This does not pretend to be an elegant script, but rather one which can easily be understood. I think it's important that with AppleScript becoming available, people realise that they too can tailor their own Mac environment without too much difficulty. Note that the above script has to be able to cope with the local part of the number starting with 0 and also with the dummy record at the end.

One thing I noticed when I ran this script was the lack of speed. I suspect that if you're planning to do this on anything less than a PowerMac you'll require at least one, maybe two, cups of coffee. In a way, it is fun watching the numbers change; it's a bit like watching weeds grow, really, only a little faster.

Note that no attempt is made to format the output. If this is required then it can be done as a separate pass latter.

Excel

If you keep your phone data in an *Excel*-type spreadsheet, then again you can write a formula to do the work for you:

	A	B	C
1	Inner London	071 567 1234	0171 567 1234
2	Outer London	081 567 1234	0181 567 1234
3	Oxford	0865 123456	01865 123456
4	Bristol	0272 123456	0117 9123456
5	Leeds	0532 123456	0113 2123456
6	Leicester	0533 123456	0116 2123456
7	Nottingham	0602 123456	0115 9123456
8	Sheffield	0742 123456	0114 2123456
9	Mobile	0831 123456	0831 123456
10			

This is a portion of an *Excel* spreadsheet, showing towns, original numbers, and converted numbers.

In column B are the original numbers. Column C holds the changed numbers. Note that in this example I have included a mobile phone, the number of which is not changed.

The calculation in column C to achieve the above result is:

```
=IF(LEFT(B1,4)="0272",REPLACE(B1,1,5,"0117 9"),IF(LEFT(B1,4)="0532",
REPLACE(B1,1,5,"0113 2"),IF(LEFT(B1,4)="0533",REPLACE(B1,1,5,"0116 2"),
IF(LEFT(B1,4)="0602",REPLACE(B1,1,5,"0115 9"),IF(LEFT(B1,4)="0742",
REPLACE(B1,1,5,"0114 2"),IF(LEFT(B1,4)="0831",B1,IF(LEFT(B1,1)="0",
REPLACE(B1,1,1,"01"),B1)))))))
```

This *Excel* calculation needs to be entered into column 3 to convert the numbers. It's less complex than it looks...

...and finally

The only thing not covered in these examples is the numbers which are not changing. These include those for mobile phones, the 0800 series, 0345 Lo-call, and premium rate ones such as 0891, 0839 and 0898. So if you're in the habit of calling those seedy chat lines advertised in the back of equally seedy tabloids, make sure you *don't* change the numbers for them – or you could get frustrated.

The International Access Code is also changing – from 010 to 00. The idea is to bring us into line with Europe. (Why is it that we have to fall in with them yet again – isn't it time they fell into line with us?) None of these issues have been dealt with in the examples above but all you need do is to check if the number is one of these, and if it is, then let it ripple through the calculations unchanged.

To check for international numbers you would have to look at the first three digits to see if they were 010, and if so change them to 00. If you're in the habit of entering local numbers without the STD code then you need to check that the number does begin with 0 before you change it.

In most cases you should find that the examples work as is. They're not gospel, however. Please use your own knowledge, skill and divergent thinking to alter or improve them as you think fit. Have a go, and in the unlikely event that you do get puzzled, think of all those consultancy fees you're saving!

If you have any questions about Phoneday then call – and this number won't change! – Freephone 0800 010101. *John Lewis*

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Power Mac 6100/66 8/350 & SW	1485	Power Mac 6100/66 8/350 CD & SW	1616
Power Mac 7100/66 8/350DL & SW	1642	Power Mac 7100/66 8/350 & SW	1905
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MacLink + Trans 7.0	93	Mac PC Exchange	115
MS Excel 5.0	225	MS Fox Pro 2.5	55
MS Mail 3.1	173	MS Office 4.2	335
MS Powerpoint	210	MS Project 3.0	289
MS Word 6.0	225	MS Works	89
MYOB 3.0	170	Norton Utilities 3.0	72
OmniPage Direct	70	OmniPage Pro	305
PageMaker 5.0	415	Persuasion 2.1	225
Photoflash	150	Photoshop 3.0	499
QuarkXPress 3.3	569	Quicktime Starter kit	49
Remote Acc Client	55	Remote Acc Server	170
Retrospect	134	Retrospect Remote	242
Ritz Accounting	239	Ritz Meridian	132
SAM 4.0 with subs	99	SAM 4.0 no subs	54
Stacker	52	Sage Bookkeeper	110
Super ATM	75	Symantec Think 'C'	2130
System 7.5	59	Text Bridge	79
Timbuktu Remote 3	129	TurboCAD	75
WordPerfect 3.0	140	WordPerfect Works	140
LEISURE			
7th Guest CD	Call	Arthurs Teacher Trou	23
Chess Master 3000	23	C. Yeagars Air Comb	28
Corel Gallery	27	Creative Writer	35
Crystal Quest	Call	Dark Seed	26
Delrina Fax Pro	59	Dracula Unleashed	29
Flying Nighmares	19	Grolier EncyloCD	95
Iron Helix - CD	Call	Just Grandma & Me	23
Kid Pix 2.0	21	Lemmings	25
Mario is Missing	29	M.Beacon Type Tutor	24
Monkey Island II	29	MS Encarta	65
MS Flight Sim 4.0	32	MYST - CD	32
Return to Zork	29	PGA Tour Golf II	26
Sherlock Homes 3.0	29	Sim City 2000	26
Spectre Supreme	28	World Atlas 4.0	89

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APPLE			
LW 300 512k	430	LW 320 2Mb	599
LW Select 360 7Mb	1190	LW Pro 630 8Mb	1195
LW 16/600PS	1505	LW 16/600PS & fax	1627
LW 16/600PS & fax & modem card			1709
DIGITAL			
DECLaser 1152 Plus	630	DECLaser 5100	1089
DECLaser Pro 6/60	1170		
CALCOMP			
CCL600 600dpi PS	2509	CCL600XS PS16Mb	2799
HEWLETT PACKARD			
LJ4ML 300dpi PS	739	LJ4MP 600dpi PS	856
LJ4M+ 600dpi PS	1268	LJ4MV 600dpi PS	1990
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EPSON			
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DW 320 & ASF	205	DW 320 Col Kit	28
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Apple Keyboards

Design Keyboard	74	Extended Keyboard	128
Adjustable Keyboard	149		

Apple Mice

Desktop II	35	Desktop II Powerbook	35

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APPLE			
Colour Plus 14"	205	Colour display 14"	235
Audio Visual 14"	305	Colour 15" display	285
Colour display 17"	679	Colour display 20"	1417
FORMAC PRONITRON			
80.17 Multisync 17"	526	80.20HP Msync 20"	1250
IDEK			
MF8115	265	MF8617	535
MF5017SP	625	MF8221	1199
MF9121	1295	MF8621	1629
NEC			
2V 14"	239	3V 15"	309
4E 15"	375	5E 17"	680
5FGp Multisync 17"	869	6FGp Multisync 21"	1439
PHILIPS			
14A 14" NI	212	15B 15"	295
17C 17"	462	17B 17"	730
20C 20"	929	21B 21"	1369
RADIUS			
20GS 20" GS Ergo	668	21GS 21" GS Ergo	780
Pivot GS Ergo	489	Precision Col Pivot	655
PrecisionCol 17"Ergo	979	Precision Col 20"	1595
Colour Display 21"	1874		
SONY			
CPD 1420S 14"	265	CPD 15SF 15"	309
CPD 1730S 17"	609	GDM 17SEI 17"	849
GDM 2036S 20"	1439	GDM 2038 20"	1560
SUPERMAC			
Supermatch 17" Tri	709	Supermatch 20"	1345
Supermatch 21"	1459		

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Thunder 24	1136	Thunder 2Gx 1152	1476

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AGFA			
StudioScan	599	StudioScan II	685
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AppleOne	435	AppleOne Colour	555
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CANON			
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Leave the **M62 J17**, follow sign for Prestwich/ Salford. Go south on the A56 through the pelican at the hospital, the main lights in the village and on to the next pelican crossing. Turn right immediately after this into Warwick Street. We are 100 yds further on the right.

DABS DIRECT - 250 LEYLAND LANE, LEYLAND, PRESTON PR5 3HL

From M61 J8 or M6 J28. Leave **M61 J8**, head West to Leyland, 3rd exit from round-about onto the A6. After 2 miles take left onto B5248 follow to T-junction with A49, turn right, at lights turn left under the M6. From **M6 J28** head West, towards Leyland centre, to mini-roundabout, straight over to 2nd mini-roundabout, turn right to main roundabout, take 2nd exit onto dual carriageway, at lights turn left. After 1.5 miles, at the 3rd set of lights turn left onto Leyland Lane, we are 1 mile further on the right.

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Leave **M3 J3**, follow Woking A322. Over 2 roundabouts keeping on A322 towards Woking. Turn left at the 3rd set of traffic lights, (not pelican crossings) with Gulf Petrol station on right-hand side. At roundabout continue straight on, immediately turn right into Lansbury Estate. See sign for location of building. **(Not Open Saturdays)**

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FutureConnect costs **£17.63** (£15 plus VAT) a month. There are no usage charges, so you can stay connected all day for the same amount (except for BT's contribution, of course). There is also a one-off connection fee of **£58.75** (£50 plus VAT). The first year's fee is payable in advance, so you can get 12 months of Internet connection for **£270.25**, including VAT – about a fiver a week. In subsequent years, the price falls to **£211.50**, which is about £4 a week.

Internet UK

You've got the modem and you're ready to dip a toe in the swirling waters of cyberspace. But where do your start? First stop, the bookshop...

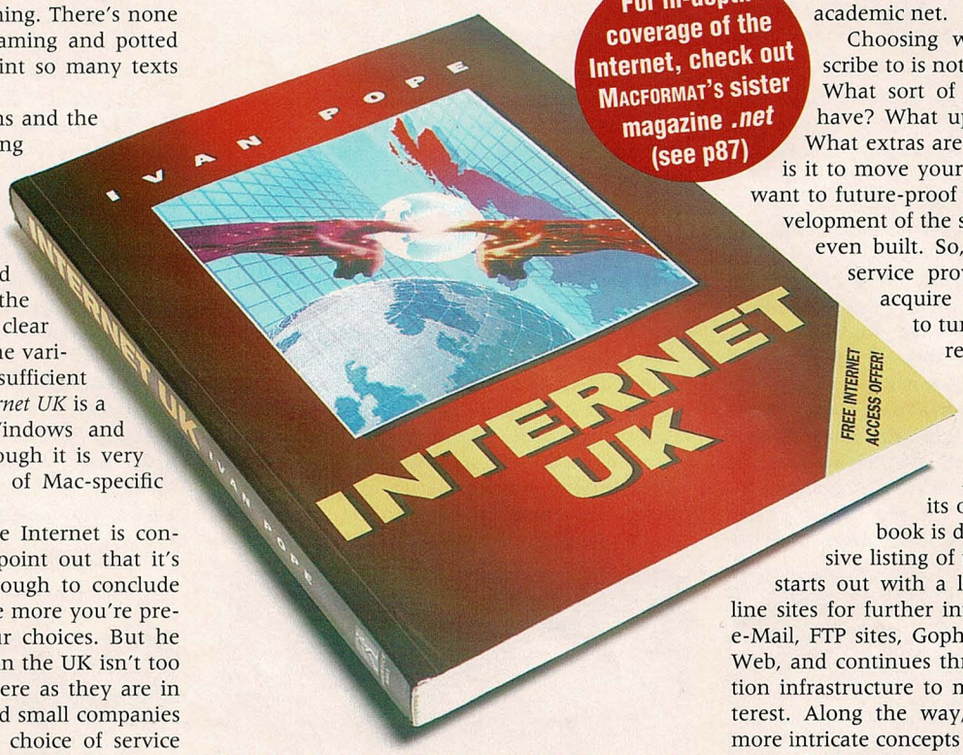
That vast telecommunications network, the Internet, may well be enmeshing the globe at a rate of knots; it may be set to become a new dimension in its own right... But to my mind it has two main problems. One: it's full of unbelievably arcane acronyms like FTP, PPP, WAIS and WWW. And two: it's largely based across the Atlantic. To the uninitiated these issues imply two things: that joining the Internet will require a massive learning curve; and that joining the Internet will incur a massive phone bill.

Both are true to some extent, but *Internet UK*, Ivan Pope's 300-page overview of all things on-line, proves that the pitfalls and overheads involved can be minimised. Since the subject is approached from a UK perspective, 'Net newbies will find the style refreshing. There's none of the usual Californian dreaming and potted philosophies of life which taint so many texts from the States.

But back to those acronyms and the business of actually getting started. Where – and how – *do* you start? Well, the first couple of chapters of *Internet UK* provide you with a handy reference guide and will definitely point you in the right direction. The style is clear and straightforward and all the various elements are covered in sufficient detail. Bear in mind that *Internet UK* is a generic title – it covers Windows and Amiga software too, so although it is very useful it's not crammed full of Mac-specific information.

As far as UK access to the Internet is concerned, Pope is the first to point out that it's still patchy. He's realistic enough to conclude that (as with most things) the more you're prepared to pay, the wider your choices. But he recognises that the situation in the UK isn't too bad. Things aren't as good here as they are in the States, but individuals and small companies here have a price level and choice of service that is by far the best in Europe. We have something like 30 access providers at present, ranging from fairly small outfits to massive interlinked sites such as the JANET academic net.

For in-depth coverage of the Internet, check out MACFORMAT's sister magazine *.net* (see p87)



If you're not well versed in 'Net navigation, this book is a real boon. You can find it @ your local bookshop.

Choosing which provider to subscribe to is not only a question of cost. What sort of network links do they have? What upgrade plans are there? What extras are included and how easy is it to move your address? Basically, you want to future-proof yourself against the development of the superhighway before it's even built. So, you peruse the list of service providers and choose and acquire the necessary software to turn your Mac into a 'Net-ready communications station. You're all set to go on-line.

But where do you head for? It's here that *Internet UK* comes into its own; the majority of the book is devoted to a comprehensive listing of the main ports of call. It starts out with a listing of the major on-line sites for further information on resources, e-Mail, FTP sites, Gopher and the World Wide Web, and continues through the vast information infrastructure to more specific sites of interest. Along the way, Pope explains all the more intricate concepts and terms.

So all the UK nodes of the Usenet newsgroup network are given copious treatment, as

START HERE

Ten useful sites to get you up and running with the minimum of fuss. (Note that the site addresses may run over more than one line here; don't hit return, just keep typing.)

1. What is the Internet?
ftp://nic.merit.edu/documents/fyi/fyi_20.txt
The place to go to get the big picture – an overview of the whole thing.

2. Hitchhiker's Guide
ftp://nic.merit.edu/documents/rfc/rfc118.txt
Legendary guide to the Internet.

3. New User's Questions
ftp://nic.merit.edu/documents/fyi/fyi04.txt
Pretty self-explanatory, this one...

4. Internet Cruise
ftp://nic.merit.edu/resources/
Interactive introduction to the Internet for Mac (and PCs).

5. W3 Search Engines
http://cui_www.unige.ch/meta-index.html
How to find anything and everything on the World Wide Web.

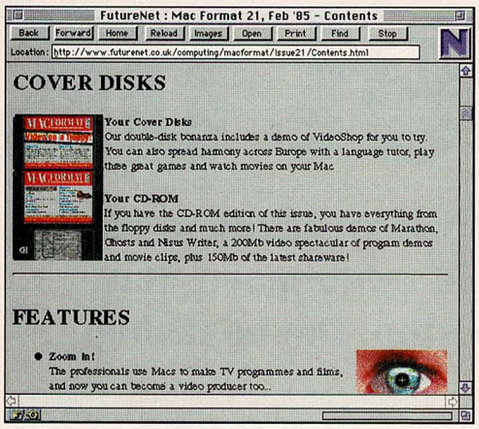
6. Navigating (E-Mail)
mail://listserv@ubvm.cc.buffalo.edu
Then, as body text, type
subscribe navigate <your name>
Mailing list for net navigators.

7. MacTCP Info
ftp://src.doc.ic.ac.uk/pub/packages/mac-umich/misc/documentation/mactpinfo1.2txt
Introduction to MacTCP and connecting.

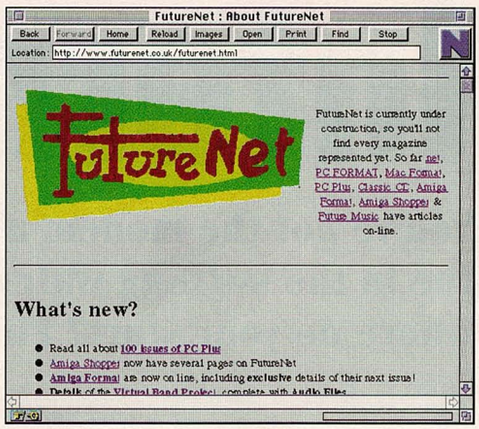
8. Imperial College Mac Archives
ftp://src.doc.ic.ac.uk/pub/packages/
From here you can choose three Mac directories, all full of software: Umich, Sumex and – most importantly – Mac.

9. Mac Archive
http://src.doc.ic.ac.uk:80/public/computing/systems/mac/
Mirror of the huge Info-Mac archive for all things Mac.

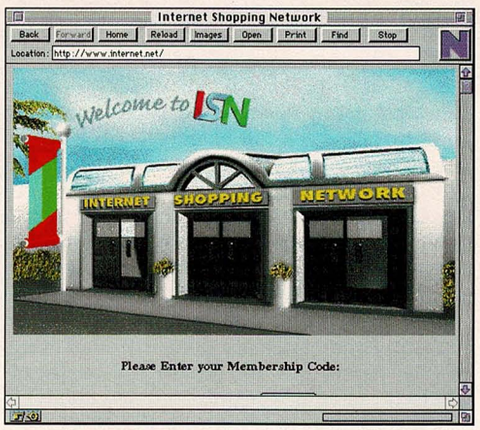
10. The Web at Nexor
http://web.nexor.co.uk/mac-archive/welcome.html
A Mac user's must-see. A useful pointer to all things Apple.



You can't read all of MACFORMAT on-line, but if you didn't get hold of issue 21, here's what you missed.



And here's where MACFORMAT on-line lives – in Future's ever-expanding home pages (see Surfing hot-spots box).



ADon't just let your fingers do the walking, let them do the shopping for you too. Choose from over 20,000 products.

are all our anonymous FTP sites. It's not all British listings. Turn a page and you could easily be in Ottawa or Ohio. But the emphasis is firmly on the local starting points and how they extend into the global network, with all the details you need to access them. For instance, listings of Telnet, Gopher and WWW sites in the UK alone take up nearly 40 pages.

But the main body of *Internet UK* (90 pages) concentrates on how to get hold of more information on the Internet. Given the 'Net's exponential rate of growth, that's all the author of any book on the subject can hope to achieve. The litmus test is how well those sources have been researched. Thankfully, the research here has been thorough. There's blanket coverage of the whereabouts of network training materials, plus a bibliography which surely includes every 'Net book in print – and many that have bypassed paper and print altogether.

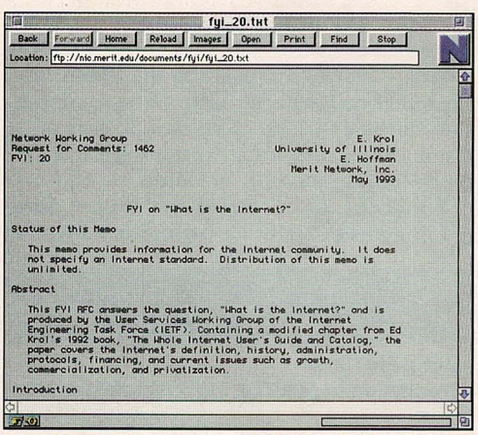
With a final 40 pages listing registered UK commercial domains (companies which have Internet addresses), very little seems to have been left out. More in-depth coverage of the Mac software available to access these diverse sources would have been useful. And diagrams showing how the Internet hangs together would have made its complexity a little clearer. But in terms of clearly presented, hard information, it'd be difficult to make a better job of it.

Of course, there's a major flaw to the notion of producing a book about the Internet. Given the length of publishing lead times, the actual contents of a guide could well be out of date by the time the publication arrives in print. Couple that with the subject matter in question – a largely text-based information medium – and you're left asking the question, 'Shouldn't I just be able to download the book?' The answer is yes, of course. But it's a little like wanting to learn how to drive, only to be told you have to drive somewhere in order to be trained.

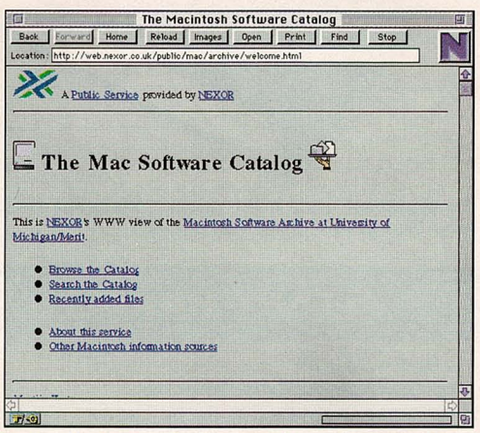
In short, what's needed is a not so much a training manual as a guide to where to get a training manual. *Internet UK* isn't perfect in this respect, but thanks to its broad scope and clear content it does a good job. It's well worth buying – before you boldly go where everyone else now seems to be boldly going. *Andy Storer*

- ***Internet UK* by Ivan Pope**
- **ISBN 0-13-190950-9**
- **Price: £19.95**
- **For more information contact Computer Manuals on 0121 706 6000**

MACFORMAT RATING **88%**



Get the big picture on the Internet. What is it? How do you use it? Where did it come from? Where is it going...



Look no further if you're after a real Mac software-fest. Sit back and start downloading those files.

HOW TO GET ONTO THE 'NET

Buying *Internet UK* brings you a free month's access to the Internet via Cityscape. You are then able to use Cityscape's IP-Gold Internet package to cruise the 'net. If you decide to keep the software, you can subscribe to Cityscape for £95 for the first quarter, and £45 a quarter after that.

Alternatively, you can take advantage of MACFORMAT's own service, Future-Connect – see page 84 for details.

SURFING HOT-SPOTS

Here's a quick and non-comprehensive cross-section of six sites to give you a taste of what you can find on the 'Net...

1. UK Guide
http://www.cs.ucl.ac.uk/misc/uk/intro.html
Look at the UK, with links to local Web pages.

2. Internet Shopping Network
http://shop.internet.net/
On-line shopping centre with 20,000 products.

3. Elvis Aaron Presley Home Page
http://128.194.15.32/-ahb2188/elvishom.html
Elvis is alive... Honest.

4. Cardiff Movie Browser
http://www.cm.cf.ac.uk/Movies/moviequery.html
Massive movie information database.

5. MUDs
http://www.cis.ufl.edu/~thoth.library/recreation.html
Good starting point for info on Multiple User Dungeons and other games.

6. Future's Home Page
http://www.futurenet.co.uk/home.html
Browse through Future Publishing's magazines on-line – from MACFORMAT to Classic CD. It's a lot less hassle than jostling for space in WHSmith.

the internet magazine
.net
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Long distance love
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Harassment across the wires
And much, much more
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the internet magazine
.net
Issue three on sale now £2.95
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future PUBLISHING
Your guarantee of Internet without tears (or your money back)

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Please note that your tickets will be sent to you eight weeks before the show.

MACANSWERS

GOT A PROBLEM WITH YOUR MAC? WE'RE HERE TO SOLVE IT!

Whatever your Mac problems we're confident that MACFORMAT's experts can solve them. All you have to do is fill in the form on page 92 – or photocopy it if you don't want to cut up your copy of MACFORMAT – and then post or fax it to us. Include as much detail as you possibly can about your setup and the software you're running, in particular the version number (to get this, highlight the program icon, then select **Get Info** in the **File** menu or press **[command] I**).

Please note that we are unable to answer questions over the phone – so there's no point ringing us up with technical enquiries. We're also unable to enter into personal correspondence – even if you enclose an SAE.

Do-it-yourself problem solving

One of the main causes of a program not working properly is something called an INIT clash – this ominous-sounding term means your program isn't happy with one of the system-level Extensions (INITs in System 6) that are running.

Fortunately, it's easy to check if this is the case. First of all, restart your Mac without any System Extensions (INITs). If you're running System 7.0 or above, that means restarting the Mac and holding down the **[shift]** key – a message telling you **'Extensions Off'** will appear. For any System version below 7.0, move all the Control Panels and INITs out of your System Folder and restart the Mac.

If your program now works, it must have been unhappy with one or more of the INITs. The only way to work out which one is the culprit is to move them all out of the System Folder, then put them back in one at a time – not forgetting to restart your Mac after each one – and test the program again after each one has been replaced.

With lots of people getting a new Mac in the sales, there's been a flood of problems. Many can be solved by RTFM (Reading The, er, Manual). Here to help with the tricky questions are Jim Chandler, Simon Cox and Derek Smith.

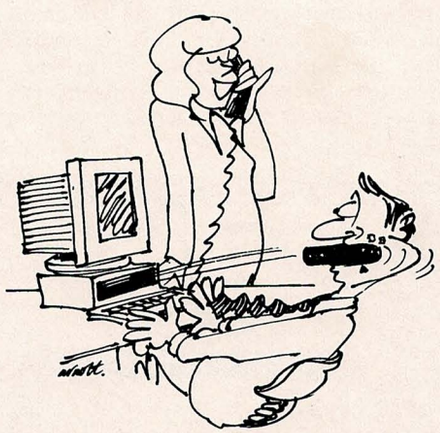
In the dock

PORTABLES

Q What's the difference between the PowerBook and the Duo? Considering I want a 120Mb hard drive, internal modem and a disk drive, which is the best buy?

Mark Evans
Pontefract, Yorkshire

A What's the difference? About two or three pounds. The Duo is smaller and lighter than a PowerBook. The main reason is that the Duo lacks an internal disk drive, along with many of the sockets that are normally found at the back, such as a SCSI or video port. The Duo lacks these features because it is designed to be used in conjunction with another piece of hardware called a dock. The Duo plugs into the dock, which usually stays on your desk, and has all those extra ports and a disk drive.



'I'm afraid the Duo's eject mechanism is playing up again.'

Both PowerBooks and Duos can take Apple's internal PowerBook Express Modem/Fax, working at 14,400 bps, which is as fast as most desktop modems. So it depends how you're going to use your Mac.

If you need a powerful desktop Mac and just want a portable occasionally, then the Duo is an ideal option. If you're going to be on the road a lot and need a floppy drive – as you do – then go for a PowerBook. You can buy an external disk drive for the Duo, but you soon end up with a luggable rather than a portable.

Don't buy one of the older PowerBooks; the new range represents very good value for money, and you'll soon be able to upgrade new PowerBooks to PowerMacs. There are two PowerBooks to choose from: the 520 and 540. Each is available with a greyscale or colour screen. The main difference between them is that the 520 has a 25MHz 68040 chip and the 540 has a faster 33MHz chip. Either would suit you well. Prices start at £1,800. *DS*

SE/30 PowerMac?

UPGRADING

Q 1. Since the SE/30 has a Processor Direct Slot (PDS), what are the chances of Apple or some third party producing a PowerMac card to go inside? 2. Are colour graphics cards for the SE/30 still made?

Oliver Clark
Selly Park, Birmingham

A 1. Your chances are pretty good. Not from Apple, but from DayStar Digital. It announced shortly before the launch of the PowerMac range that it would be producing upgrade cards for all Macs with a Processor Direct Slot. At present, DayStar Digital has only built cards for the same Centris and Quadra Macs as Apple, but if it's as good as its word, then your luck could be in. DayStar products are distributed in the UK by Merisel, tel: 0181 5688866.

2. As for SE/30 colour graphics cards, you're going to be less fortunate. Display cards for this little turbocharged box of tricks used to be common, but now they're rather thin on the ground. Mirror, on 0121 212 2779, should be able to obtain a *mono* display card for you. *JC*

Dynamic duo

PORTABLES

Q I own a PowerBook 180 and have two questions about its video capabilities. First, is it possible to add a VRAM card to the PowerBook, and if it is, would it speed up the redraw time? Second, would it be possible to connect, say, a 20-inch monitor? If so, what video card would be required?

M Kaplan
Harrow, Middlesex

A All the PowerBooks that have integrated video capability, like the PowerBook 180 and the newer PowerBook 500 series, have

Duo's are wonderful computers, but with prices starting at around £2,000, they are fairly expensive.

fixed limits on the size of screen and number of colours they can display. In the case of the 180, the largest screen it can handle is 16 inches, with up to 256 colours. As no extra VRAM can be added, there's no way of changing this.

This is not true of the Duo series, however. A Duo has a number of docks that can utilise up to a 21-inch screen. It's worth noting that even if you could add VRAM to your portable, it would probably slow down screen redraw time rather than speed it up. Most display circuitry will slow down when operated with more colours because it has to move more information around. *SG*

Erratic performance

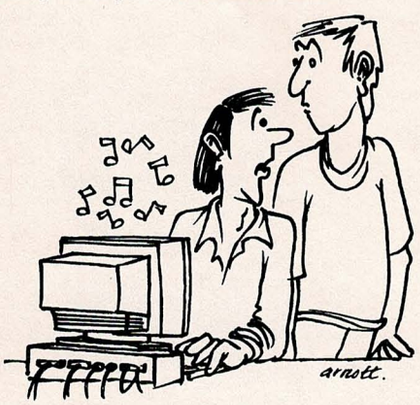
CD-ROM

Q *When I use CDs the playback of video clips and sound is erratic. I'm aware that the speed of the Mac, amount of RAM and speed of the CD player are important. I have seen an inexpensive triple-speed CD-ROM drive advertised. Would this improve the playback sufficiently so that I don't have to buy a new Mac or buy more RAM?*
A J Carter
Kidderminster, Worcs

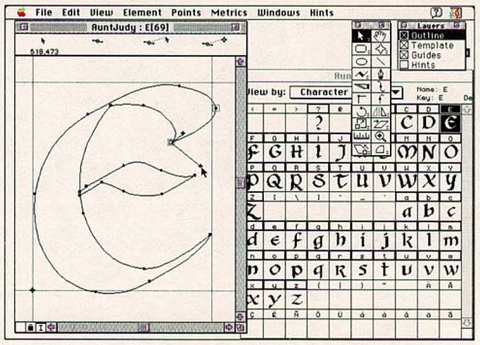
A You are quite right that the processor, RAM, and CD drive are all important to the speed of video playback. The most likely reason for erratic performance at the moment is that you use *RAM Doubler* to increase your Mac's built-in 4Mb of RAM to 8Mb of RAM in total. Although *RAM Doubler* is slightly faster than normal virtual memory, which is set up from the Memory Control Panel, it still really screws up CD performance. No form of software will ever be a substitute for real RAM. So you won't get smooth playback until you go out and buy some more RAM.

The bad news is that, even then, your Performa 400 (LCII) will suffer from a couple of problems. First, it will have trouble keeping up with the speed of some CD programs. Scond, it may not be able to keep up with a triple speed CD-ROM drive, and you'll lose some of the speed advantage you just paid for. For instance, in our CD-ROM drive round-up on page 48, our tests showed that an LC475 had trouble keeping pace with a quad-speed drive. So the answer to your question is:

Step one: purchase another 4Mb of RAM (which will set you back about £120).
Step two: purchase a faster Mac.



'I think it's bust – I put in Metallica and out comes James Last.'



You can create your own fonts with *Fontographer*, but with so many shareware fonts around, do you really need to?

Step three: purchase a faster CD player.
Step four: by this time you'll probably want some more RAM, so go back to step one and start again... *DS*

Creation story

FONTS

Q *I have heard that fonts can be created in* ClarisWorks. *However, I cannot find how to do this. Is it possible to create fonts with* ResEdit *or any other shareware programs?*
Martin Ing
Barnes, London

A I'm afraid that this is the greatest piece of misinformation since Hitler told Chamberlain, 'Me invade? Never crossed my mind, guv.' *ClarisWorks* is a great piece of software but it can't create fonts, which is, after all, a rather specialised function. *ResEdit* can't create fonts either, nor can any shareware program I've ever heard of. Two programs that can do what you want are *Fontographer*, which costs £450 from Softline, tel: 0181 401 1234; and *FontStudio*, which costs £345 from Letraset, tel: 0171 928 7551. As you can see, they're both rather pricey. It also takes a lot of time to create an entire character set. Unless you need something very specialised, buy commercial or shareware fonts. By the way, we'll be doing a round-up of font creation and manipulation software in MACFORMAT soon. *DS*

Spanish inquiry

HARDWARE

Q *I live in Spain and I am interested in buying a PowerMac. I have noticed that the prices advertised in MACFORMAT are substantially cheaper than those over here and I am considering buying a Mac by mail order. However, the Spanish alphabet makes a great deal of use of the letter ñ, which is not on English keyboards, so I need a Spanish keyboard. If I buy an adjustable keyboard in Spain, what will the English System do when the ñ key is pressed?*
M G Rodriguez
Asturies, Spain

A The Mac system can recognize the type of a keyboard (whether it is standard, extended or adjustable, for example), but not what nationality it is. Foreign keyboards differ by having various punctuation and numeric keys replaced with local characters. (The ñ key on Spanish keyboards is the ';' on English ones, among other differences.) It's the job of the Keyboard Control Panel to let the Mac know what nationality the keyboard is.

Up until just recently, Apple supplied only a few keyboard layouts for the Mac – with System 7.1 and System 7 Pro, normally only layouts for British and US keyboards. To get the ñ character in these, you have to type **[option] n** and then **n** (see our feature on special characters last issue). However, we've noticed that System 7.5's Keyboard Control Panel seems to contain all the layouts for most countries that use a Roman character set. So if you buy a new PowerMac, which should now be shipping with System 7.5, then you should end up with the appropriate keyboard layout as well. *SG*

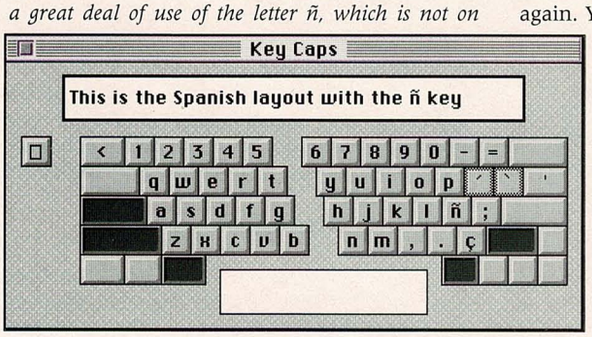
Kermit the hog

MODEMS

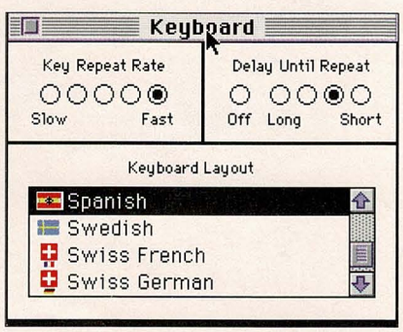
Q *Could you explain the differences between the following file transfer protocols and tell me which would be best suited for a 2,400bps modem: Kermit, Xmodem, Xmodem CRC, Xmodem 1K, Ymodem, and Zmodem? Is it worth upgrading my modem? How much faster is a 14.4Kbps modem?*
Scott Sinclair
Bishops Stortford, Herts

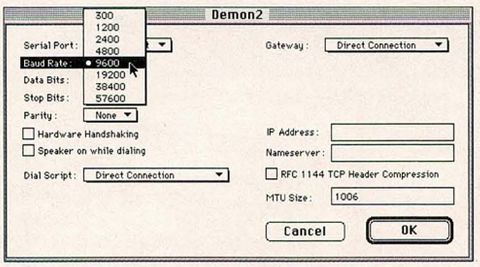
A Well, Kermit is designed to handle links between almost anything with a plug on it: massive mainframes, minicomputers, personal computers, and probably some types of sandwich toasters too. The disadvantage of Kermit is that it's generally very slow.

Xmodem is a bit faster, and incorporates a fairly brain-dead scheme of error correction based on 'checksums' after every 128 bytes – that is, it stops sending your data and sends a standard test message, then waits for the right reply, to test that the connection is okay. Xmodem 1K increases this to 1,024 byte chunks, and Xmodem CRC uses a 'cyclic redundancy' check (don't ask!) rather than a checksum to detect data errors. Ymodem is slightly faster again. Ymodem-G does away with error correc-



This is the adjustable keyboard layout that can be reconfigured via the Keyboard Control Panel to be Spanish (or virtually any European tongue).



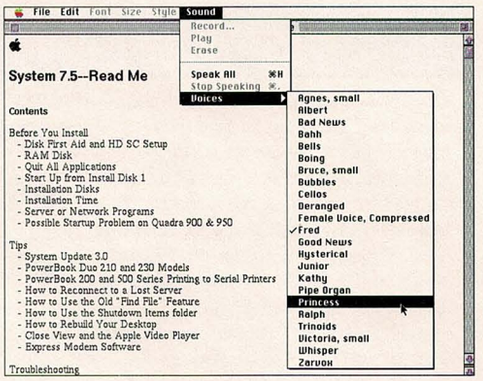


Baud rates and modems are something of a black art. You must let your software know the speed of your modem.

tion to speed things up, and Ymodem batch enables you to download several files in one go.

Zmodem is the goodie. It increases the length of data chunks between error checks if it's getting few errors, and decreases them if more errors occur. This means you get faster file transfers on better phone lines. Better still, it remembers how far it has got through a transfer if the transfer fails. When you re-try the transfer, it will start where it left off. If you've only got a slow modem, and phone time is at a premium, this is probably the best protocol to use.

As for upgrading your modem: if you plan to download or upload much data, or to use the Internet, then a faster modem will be essential. A 14,400 bps modem will be roughly six times faster than your 2,400 bps. Data compression, such as V42bis, can increase this further. *JC*



With *MacInTalk 2*, you can select from a wide variety of voices. Several of them sound spookily like John Major.

Read to me

SPEECH SYNTHESIS

Q *My little Atari ST could 'read' text files out loud using a computer simulated voice. Is there any readily available software that will enable my Macintosh Classic II to do the same sort of thing?*

G Williams
Chesterfield, Derbyshire

A The good news is yes. There are two pieces of software from Apple itself, called *MacinTalk2* and *MacInTalk Pro*. These are shipped with AV Macs and replace the original *MacInTalk*, which did not work under System 7. Although the *MacInTalk* software should work on your Mac, you may have some problems obtaining it. It is freely available on the Internet from Apple's FTP sites, from the Apple Program Developers Association, and on AppleLink. If you take a couple of floppy disks to your local kind Apple Dealer, he might be able to let you have a copy. Installing the software is straightforward. Drag the Extensions onto your System folder and place the supplied voices in there.

Once you have obtained this software there are a number of applications that can speak to you. These include Apple's own *SimpleText*, which has replaced *TeachText*. When *MacInTalk* is installed a menu appears that enables text in documents to be spoken. There are a number of shareware editors with similar functions, and

GET THE POWER OF A POWER MACINTOSH

Everyone wants a PowerMac, especially PC owners! Here's the low-down on upgrading your Mac, and running *Microsoft Windows* on your Power Macintosh...

Power to your mac

UPGRADING

Q *I'm thinking of upgrading my Centris 650 to a PowerMac 7100 and I have some questions:*
1. Should I go for a motherboard upgrade, or should I choose a processor card by Apple or DayStar? What is the effective difference between the two options?
2. Will my existing hardware work with the PowerMac? I'm especially worried about my RasterOps video board.
3. Since I use such power-hungry applications as Photoshop *and* Painter, *I'm also planning to get an additional 16Mb of RAM. Is this a suitable combination with my existing 8Mb?*
4. I've got a 19-inch Barco monitor. If I got more VRAM, would I be able to view more colours than the present 256?
5. As most of the work I do (graphics) ends up in PC CD-ROMs, could I view them with my Apple CD300 if I obtained the SoftWindows *emulator with my upgrade?*
Marco Pajari
Tampere, Finland

A 1. Your choice of upgrade will make a lot of difference to the rest of your System. Apple's motherboard replacement is fast; it will upgrade your 650 to a fully-fledged PowerMac 7100. But it's also expensive – well over £1,000 (though prices vary). For details, call Apple on 0800 127753.

The other option is a processor-card upgrade that fits into the Centris 650's Processor Direct Slot (PDS). This is cheaper, but Apple's version, which costs around £700, only works at twice the clock speed of its host machine. This means that on your 33MHz Centris, you'll only get the equivalent of a 66MHz PowerMac, which is the same as the basic 6100 model. On the plus side, the card can be turned off, so any particularly PowerMac-unfriendly programs can still be run using the original processor.

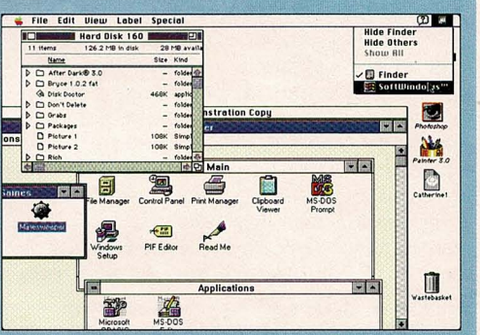
DayStar Digital also makes PDS upgrade cards, but these are much faster, working at either 66MHz or 80MHz . They're rather more expensive at around £1,115 and £1,378 respectively. For more details contact Aptec on 0171 6271000.

2. Your existing hardware *should* work without modification on a PowerMac. Some PowerMac 7100 owners have reported problems with SCSI devices, although newer machines now seem to be trouble-free in this respect. Generally, nearly all peripherals should just plug in and work as before. As far as your display card is concerned, again, it should work, but it's worth checking with RasterOps, (tel: 01256 59283), because there have been problems with some cards.

3. It would be a very good idea to buy another 16Mb of memory, especially as native programs tend to take up more memory than normal Mac programs. If you decide to buy a PDS card, it will use your existing 8Mb of memory. With Apple's card, you'll need to add RAM to the normal slots inside your Centris. The DayStar card is preferable as it can access the RAM chips more quickly.

4. The PowerMac 7100 motherboard also gives 256 colours on a 19-inch monitor. If you go for the PDS card, then you can add VRAM to your existing motherboard. If you go for a motherboard replacement, then you can add VRAM to that board.

5. And finally... yes, you could run some PC CD-ROM programs using *SoftWindows*, provided that they don't need to use 386 Enhanced Mode, a full 32-bit mode that 386 and later chips have. *SoftWindows* emulates a 286 chip without this mode, so some programs (like *Doom*, sniffle) won't work. But *SoftWindows 2*, which is due for release in the first quarter of '95, emulates a 486 chip, so you should then be able to run any *Windows* program. *JC*



With *SoftWindows* you can run PC applications and use your Mac as normal at the same time. If you have the RAM.

Self assembly

PROGRAMMING

Q *I often write programs in assembly language for the PC. I am about to purchase a PowerMac and was wondering whether I could write PC assembler programs using* SoftWindows *on the PowerMac.*
Hugh Bradley
Crumlin, Northern Ireland

A The short answer is yes. *SoftWindows* performs an extremely good emulation of a PC. This means you can run assemblers like TASM on it. Insignia Solutions, which makes *SoftWindows*, says that all low level tasks will work fine. *SC*

even an extension to Microsoft *Excel* to speak spreadsheets out loud! *SC*

From small beginnings

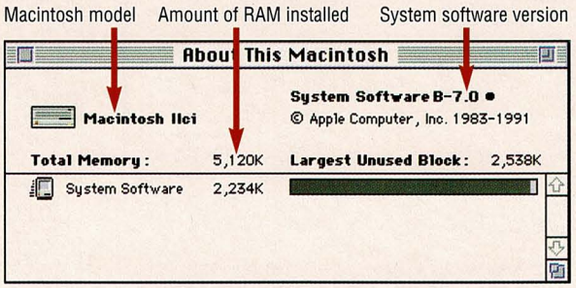
HARDWARE

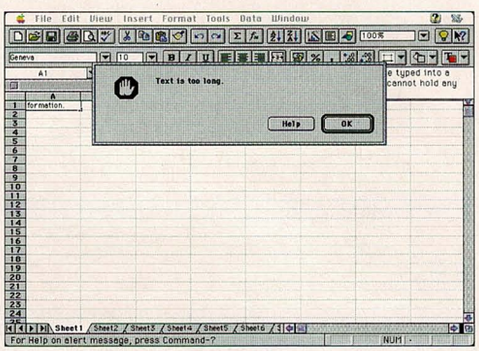
Q I recently bought a secondhand LC 4/40 with System 7 installed. I have some questions:
1. What is the benefit of upgrading my Video RAM (VRAM) from 256 to 512K?
2. Why does Virtual Memory not appear in the Memory Control Panel?
3. I have left 32-bit addressing on. What is it and should it be on?
4. What is the difference between a NuBus card and an expansion card?
5. Do I need an expansion card to go on the Internet?
Rory Doyle
Madeley, Cheshire

A 1. To upgrade your VRAM, you will need to throw away your 256K SIMM (Single In-Line Memory Module or memory chip) and replace it with a 512K SIMM. The difference is simple: you will be able to display more colours on your monitor.
2. You don't have Virtual Memory because the original LC has a 68020 chip that cannot be used to create Virtual Memory. Macs from the LCII upwards have either a 68030 or 68040 chip, which can use Virtual Memory.
3. 32-bit addressing enables your Mac to access large amounts of memory. Because the LC cannot take large amounts of memory anyway, this is not very important. If you're not experiencing problems, then you might as well leave it turned on. If you suffer crashes, you could try turning it off.
4. 'Expansion card' is a generic term and can refer to any type of card. On the Mac, the two main expansion cards are NuBus and Processor Direct Slot cards. NuBus cards are physically larger and some expansion options are only available as NuBus cards. PDS cards are smaller, and the range of what they can do is slightly more limited. But they are faster. All LCs, up to and including the 630, have one PDS slot and no NuBus slots.
5. No. What you do need is a modem. There are many types around and a bit of professional advice from a dealer can be a great help. Make sure your modem dealer has a full advice and help service to get you set up and running. It may help preserve your sanity. *DS*

How much RAM have you got?

Obvious, but true: even the same models of Mac can have different amounts of memory or run different System software. To solve your problem, first we need to know all about your setup; find out here. Ensure you are in the Finder, point to the **Apple** menu and go to the first item, **About This Macintosh**, then release the mouse button and all will be revealed.





Increasingly sophisticated spreadsheets enable you to do many of the things that you could previously do only with databases – but not quite everything!

Excel cell

SPREADSHEETS

Q I would like to use Microsoft Excel *to organise text but I do not know how to get more than 270 characters into one cell. Can you help?*
Richard Miller
Dorking

A No. Sorry. Even the latest version of *Excel* has a limit on the number of characters that can be placed in a single cell: 255. Assuming that you're using a spreadsheet because you want to organise text into separately accessible pieces, I suggest looking at some database applications instead – Claris *FileMaker Pro* (about £325; contact Claris on 0181 756 0101) or Microsoft *FoxPro* (about £100; contact Microsoft on 01734 270000) are just two examples. *SC*

MACANSWERS

If you send in a question for the MACFORMAT experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you.
Send your form and question to:
Mac Answers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. Or fax it to us on 0225 446019.

Name .....

Address .....

.....

.....

Your Mac
(For example, Performa 200, IIfx, PowerBook 145):

.....

System version
(see About this Macintosh screenshot above): .....

Amount of RAM
(see About this Macintosh screenshot above): .....

Are you using Virtual Memory? .....YES/NO
(This is accessed from the Memory Control Panel under System 7)

Do you have 32-bit addressing turned on? .....YES/NO
(This is accessed from the Memory Control Panel under System 7)

Details of any relevant hardware which could help us to answer your question:

.....

.....

Now, use this space to describe your problem or question. Include as much relevant information as possible. Please continue on a separate sheet if necessary.

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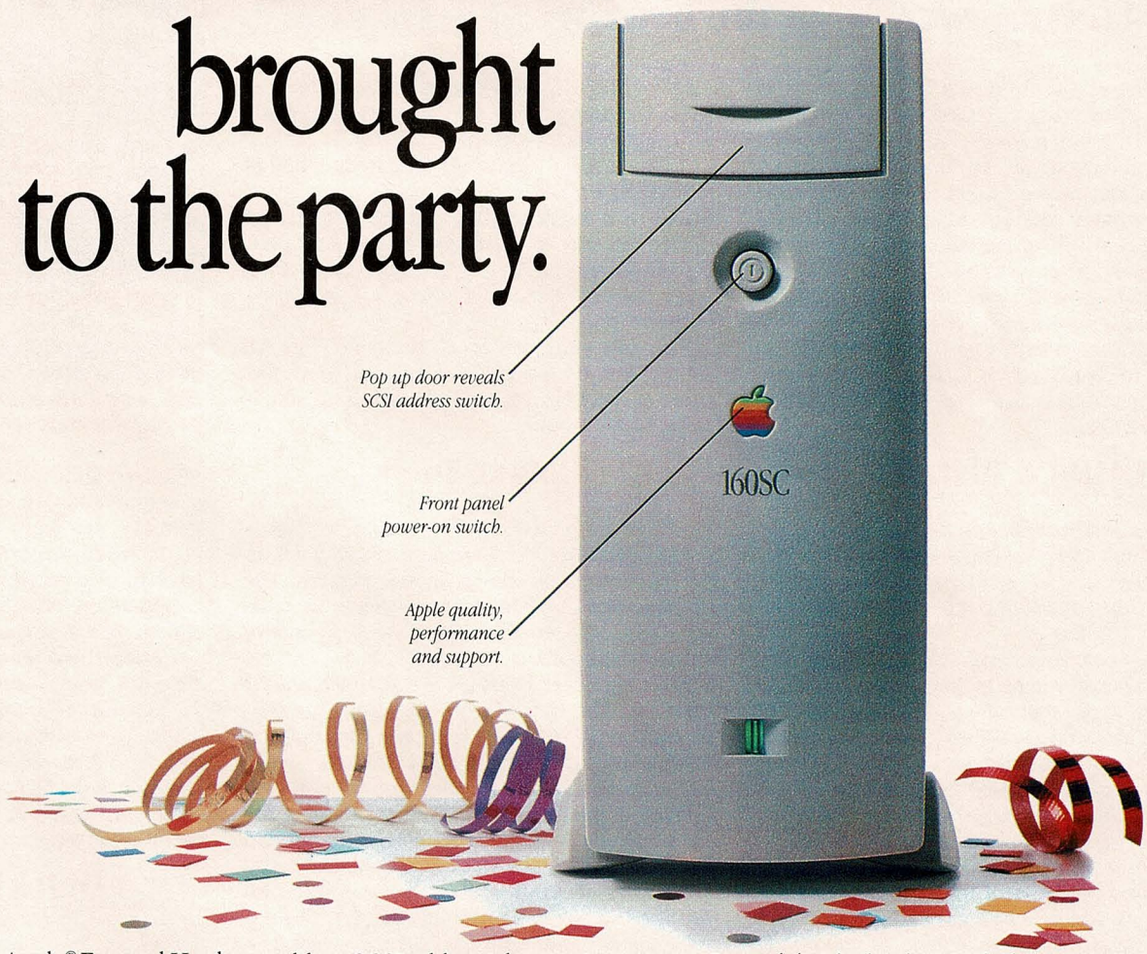
Before you consider a third party external drive, look at what we've brought to the party.



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The full works

If you don't have the latest full version of *HyperCard*, you don't know what you're missing. Rod Lawton rounds up the benefits of version 2.2.

This is the third and last instalment of MACFORMAT's overview of *HyperCard* (the full version). We've already taken a look at all the useful Help Stacks, plus bits and pieces of clip art that make life easier for stack creators. More advanced stack developers will love the additional commands available via the Power Tools Stack.

This month we'll look at four very powerful stacks that significantly enhance *HyperCard's* potential. These stacks are not the usual bolt-on XCMDs or handy scripts, but more like small-scale applications that work in conjunction with *HyperCard*.

XCMDs & installation

HyperCard, unlike most other software packages, is built to be expandable. Apart from the formidable range of features and functions built in, it has the capacity to accept additional commands – XCMDs.

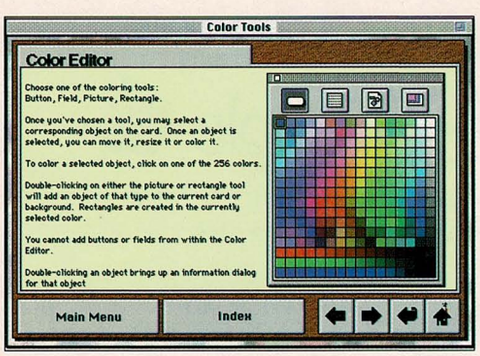
These extra commands are usually written by third-party suppliers, but some are published by Apple themselves – like those in the Colour Tools and *QuickTime* Tools stacks. They are built into stacks that act as documentation, as a front-end for controlling them and even as demos of what the new features are capable of.

Often, these stacks 'install' themselves by doing three things: writing new handlers to your Home Stack script to 'intercept' the new commands; adding a button to your Home Card so you can switch the new features on and off; and getting *HyperCard* to start using these resources on start up if switched on.

Constructing a versatile program in the first place, including an interface for third party suppliers to 'plug in' additional features, is a great way to build a software package. There are many third-party *HyperCard* stacks, almost all of them American. If you buy *HyperCard 2.2* you'll get a leaflet listing just a few of them.

This modular approach to software design makes *HyperCard* more versatile than ever. Stacks are available that do all manner of things, but they're not always cheap. And even though *HyperCard* is very versatile, it's not always the fastest piece of software engineering in the world.

The following stacks do extremely useful things, but it's asking a bit much to expect them to perform as well as dedicated, stand-alone applications.


Color Tools
Color Editor
Choose one of the coloring tools:
Button, Field, Picture, Rectangle.
Once you've chosen a tool, you may select a corresponding object on the card. Once an object is selected, you can move it, resize it or color it.
To color a selected object, click on one of the 256 colors.
Double-clicking on either the picture or rectangle tool will add an object of that type to the current card or background. Rectangles are created in the currently selected color.
You cannot add buttons or fields from within the Color Editor.
Double-clicking an object brings up an information dialog for that object
Main Menu
Index

With the colour tools you can create coloured buttons and fields, but you *don't* get colour paint tools. Why not?

Colour Tools

By now it's practically impossible to buy a mono Mac. And yet *HyperCard* is still stuck in the Dark Ages of one-bit mono graphics. The program does have built-in painting tools, true, but they only enable you to produce pretty crude illustrations.

So a big cheer went up when *HyperCard 2.2* came out, together with its full-colour capability. Except this capability is provided in the form of an add-on stack, and is rather limited.

The main limitation is that you still don't get full-colour painting tools. The paint tools are the same one-bit mono ones *HyperCard* has had all along. The Colour Stack installs a button and some lines of script in your Home Stack; you can then switch colour on and off. With colour switched on, *HyperCard* has an extra – colours – menu. You can use this to call up the colour tools palette. But this isn't exactly instantaneous, so it's a good time to make a cup of tea.

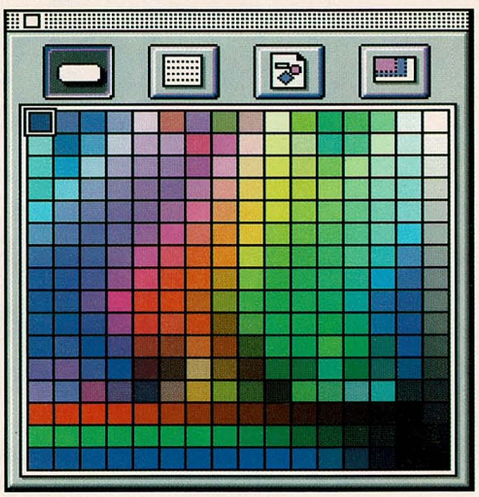
With the Colour Tools activated, most of the familiar *HyperCard* functions are de-activated – highly frustrating for *HyperCard* developers. But with the Colour Tools activated you can 'colourise' your stack, creating coloured buttons and coloured shapes on your cards, and even coloured text. Excellent. Probably.

You can also import colour PICTs and place them on cards. (You could display colour PICTs with previous versions of *HyperCard* of course, but not as part of the card itself, only in a separate window.) So the Colour Tools Stack is a useful addition, but there are speed and memory problems: you can display external PICTs when the card is opened, but then you have to wait while the PICT loads; or you incorporate the PICT into the stack, but then you run out of memory.

Couple this with the various other inefficiencies and general messing about of *HyperCard 2.2's* colour tools, and you begin to doubt their value. They will make your stacks more attractive, but they are awkward to use. They are clearly a bolt-on extra – complete with a few loose bolts – rather than an intrinsic enhancement of the basic software.

JARGON BUSTERS

XCMDS: eXternal CoMmanDs that can be installed and used within your own *HyperCard* stacks.

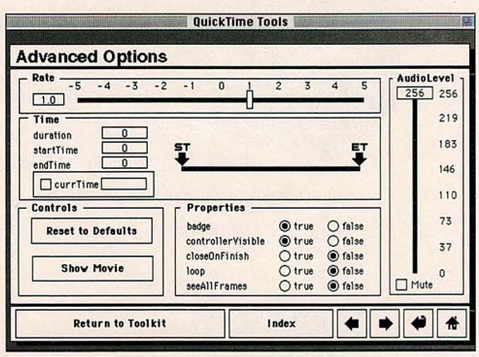


HyperCard 2.2 does work in colour. Sort of. This impressive-looking palette lets you *colourise* your stacks. Mmm…

QuickTime Tools

QuickTime is Apple's own video standard, enabling you to play video clips in real time in an on-screen window. In this day and age no serious multimedia package would come without *QuickTime* compatibility.

So that's what you get with *HyperCard 2.2*. It comes in the form of a stack – like the Colour



HyperCard is a multimedia package, so you'd expect a *QuickTime* player/editor. This one does the business.

Tools Stack, for instance – which you install as part of the main application.

This stack consists of a formidable array of technical information about the additional commands now at your disposal, plus a variety of tools for viewing and editing *QuickTime* movies. Using this stack you can add movies to other stacks, and you can also add a large degree of interaction with other *HyperCard* objects. For example, you could get movies to start when you open cards, get them to stop when you click on a button, and so on.

QuickTime is a standard format in multimedia Mac applications. So this stack is a valuable plug-in tool for *HyperCard*, enabling you to install *QuickTime* movies in your stacks.

AppleScript

AppleScript is a new and developing Apple software technology whereby AppleScript-compliant applications can 'talk' to each other and act co-operatively via scripts.

For this to work, applications must be 'AppleScript-compliant' – many new Mac applications are. What this means is that these applications can respond to a certain core set of AppleScript words. Each application may well have other commands and keywords specific to itself in addition to this core set.

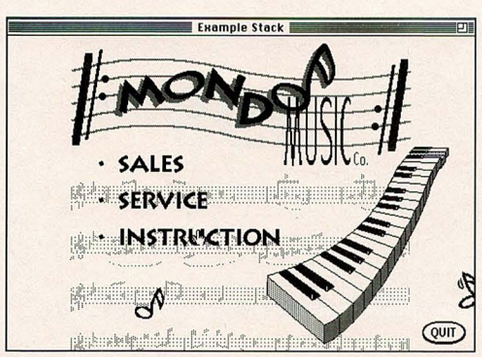
The idea is that future Mac applications should be able to use the features of other programs. For example, a DTP program might not have a thesaurus but, via an AppleScript script, could open up a word processing application that does have one.

This software technology is not exclusive to *HyperCard*, but *HyperCard 2.2* is AppleScript-compliant, thanks to a new AppleScript Extension. This version comes with a set of stacks explaining how AppleScript works and what you can do with it. There is even a sample application for you to examine and learn from.

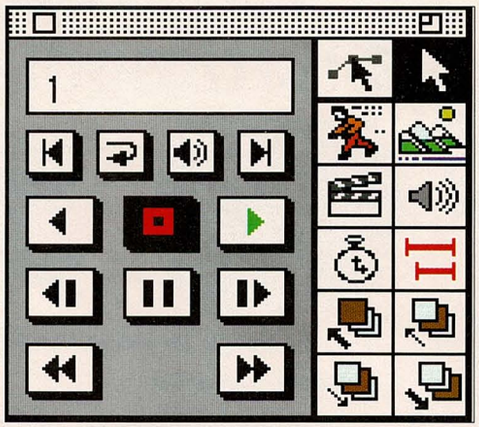
This AppleScript support is not bolted on to *HyperCard 2.2*, but built into it, so that the object scripting windows now offer a choice between HyperTalk and AppleScript.

AppleScript is likely to be of real interest only to serious programmers. The language itself is little different from HyperTalk, but different enough to seem pretty alien, and the concepts involved are pretty hard to grasp. The documentation is plentiful, but you come out of it none the wiser. Or maybe that's just me.

AppleScript is extremely interesting. If only it was possible to go and live in a cave for a year so that you could study it...



ADDMotion is a real gem – a superb *HyperCard*-based animation package that works in both colour and mono.



This is the ADDMotion stack's 'media controller'. Use it to select actors, backgrounds, paths, timelines and more.

ADDmotion

ADDMotion is just about the most impressive stack supplied with *HyperCard 2.2*. It works solely in conjunction with *HyperCard*, via installable resources, but it looks and feels like an entirely separate program when you're using it.

It's a program for creating and editing animations within the *HyperCard* environment, and then installing them in stacks, ready to be played back by clicking on a button (which opens a card). In fact, ADDMotion installs additional HyperTalk commands specifically for handling animations.

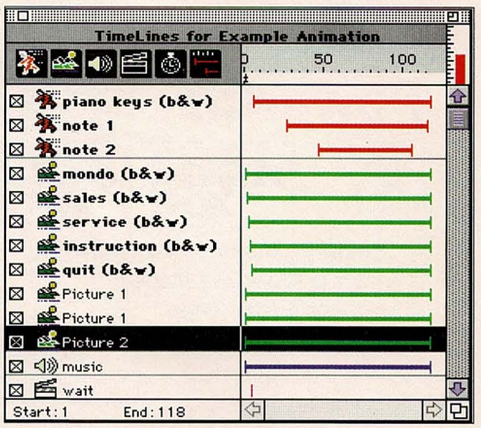
Not only that, ADDMotion can also import and edit sounds from other stacks and files. Or, thanks to the Mac's built-in sound handling capability, you can plug in a microphone or external audio source.

Like the Audio stack provided with *HyperCard*, ADDMotion can record external sounds as sound files. It does more than *HyperCard*, though, by enabling you to edit the samples – cutting and pasting sections, for example.

Sound handling is only part of ADDMotion's arsenal of tools. Far more impressive is its list of animation tools. Broadly, animations take place against a background consisting of one or more 'props'. The animated objects themselves are called the 'actors', and these are edited separately. Each actor can have a range of 'cels' (sic). These are individual frames that differ slightly from one another, but which, shown rapidly in sequence, appear as a moving object. ADDMotion's animation tools are quite sophisticated, and you can create new cels via a process known as 'onion-skinning' – the previous cel is displayed greyed out in the background while you draw the new cel over it.

Once you have your actors and props you can begin to choreograph your animation. You do this with the 'media controller' palette, which has a set of controls to start, stop, loop, reset animations and more. Once you've decided on the length of your animation, in frames, you decide when you want each actor/prop to appear. And actors can be given editable animation paths to follow. Your animation can also be viewed as a list of actors/props and timelines so that you can get an overview of the overall construction.

ADDMotion comes with a manual of its own – a very good manual, as a matter of fact – and



This is the demo animation viewed as a set of timelines showing the complexity of sequences you can build.

an impressive example animation, which is broken down and explained in great detail.

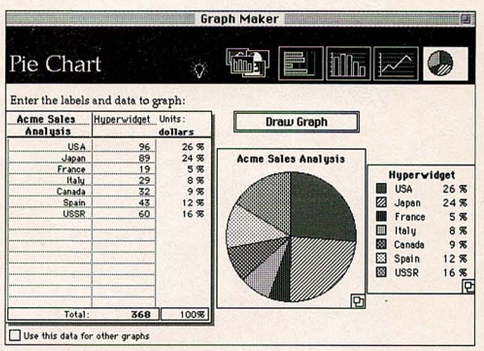
But better still, ADDMotion also works in full colour. Not only that, it comes with a set of full-colour painting tools. Excellent.

Graph Maker

Given that you can automate *HyperCard's* graphics tools with scripts, and *HyperCard* is pretty handy at juggling numbers, it's not surprising someone put two and two together and came up with a stack for creating graphs. And given that programming this kind of thing in HyperTalk is not the easiest thing to get your head round, it actually works quite well.

So far so good. Except that anyone who needs to juggle graphs for a living will do it using spreadsheet software – it's much easier, much more flexible, and far easier to export finished graphs for use in other documents. Besides which, graphics produced by *HyperCard* are bitmaps. Charts produced by spreadsheet software use smooth outline graphics.

HyperCard generating graphs is a bit like a dog walking on its hind legs: a terrific novelty and, er... that's about it. *Rod Lawton*



Graph Maker is a novel use for *HyperCard*, but any decent spreadsheet will do this a hundred times better.

NEXT MONTH

There is one very important new addition to *HyperCard 2.2* that we haven't covered in detail yet – the ability to create new, stand-alone applications. The potential is exciting, but first you have to know about the limitations...

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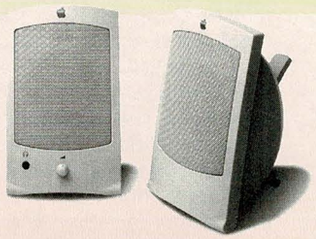

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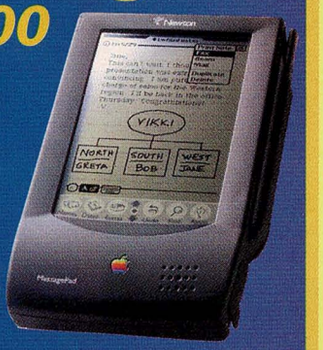

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Lock it or lose it...

Worried about losing data? Concerned about unauthorised access to your Mac? You need backup – and a secure hard disk. Andy Storer tests out Mac security software...

Disaster always strikes when you least expect it. You've forgotten to make backups and your hard disk goes down, trashing all your files. Your child walks up to your Mac and wipes the wrong folders. Or your Mac gets stolen...

You can get by with backing up your data files to floppy disk. But this kind of task is a pain, even if you do remember to do it regularly. What you want is for your Mac to back up files for you, and to say 'Halt. Who goes there?' when anyone comes to the keyboard.

RETROSPECT

Retrospect is basically a file backup application. It can be used to back up immediately the contents of specific groups of files, or to create backup scripts automatically. *Retrospect* performs incremental backups: it copies only those files that have been modified since the last backup.

Since *Retrospect* keeps track of all your files it's easy to locate and retrieve them. It works by creating 'StorageSets' of your data. These are backup catalogues of individual files that are grouped together in ways that you can define. You can create StorageSets of older versions of files, each with a password or data encryption, or archive a group of files and transfer them from your main hard disk onto a removable medium – like floppies, DAT, SyQuests etc. Or you can back up to remote volumes on a network – so long as they're accessible through System 7 file sharing.

Getting your backup is a breeze. Just select which folders – and files in them – are to be backed up, then choose the destination device and whether you want the files to be compressed as they're copied. *Retrospect* takes care of everything else.

Scripts enable you to schedule your backups to run automatically and unattended. And you can choose between a backup script and an archive script; the latter enables you to delete the original files from the source volume as you copy them to the destination volume.

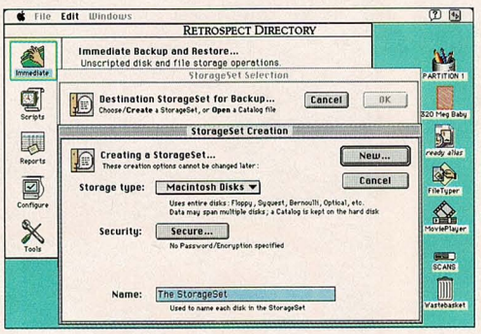
Once the type of script and the storage devices and folders/files they contain have been selected, you can determine on which days and how often the script should run – this can be daily, weekly or monthly or on a particular date and time. You could set it to back up all the files that have been modified during the day, just before you shutdown at 5.30pm. *Retrospect* can even shut down your Mac for you after it's performed its tasks. Smart!

Retrospect also comes in handy for file management. It includes a Browser – an alternative to the Finder – for choosing, copying and deleting even invisible files. *Retrospect's* built-in Selectors offer even more control over file handling; they're used with scripts to choose files for back up. You can choose files by name, date, size, type and so on. So you could choose to set up a Selector which scans an entire hard disk for Microsoft *Excel* documents modified after December 20th 1994, for instance, and create a StorageSet to hold only these files.

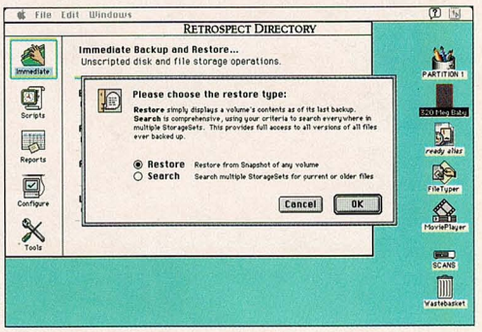
But consigning files for backup is only half the picture, no matter how sophisticated the tools that achieve it. What about restoring files that have been successfully backed up?

Retrospect offers Snapshots. These are disk images, taken at the times of backups, which contain a catalogue of all the files forming that backup. To restore a storage device to the state it was in the last time it was backed up, all you have to do is select the Snapshot you wish to restore; you don't have to trawl the backup device for files and retrieve them manually.

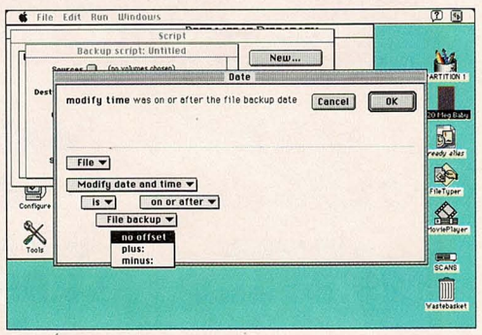
Once you've selected a Snapshot you can



Once you've decided which files to back up you can specify where you want them to be safely stored. You can password-protect them if you wish and define whether you want to devote an entire volume for backup or not.



When it comes to restoring files, *Retrospect* is equally as friendly – here you're able to perform a mass retrieval or search for specific files previously backed up. This is handy if a single document or application has become corrupted.



The scripting capabilities of *Retrospect* are its most powerful feature. Here we're defining whether files should be backed up within a certain time – if we'd chosen plus or minus we could have defined that we'd like to back up files that have been modified in, say, the last two weeks only.

REMOTE RETROSPECTION

Retrospect is also available in a network-ready form, for use across any net using AppleTalk protocols. (This includes LocalTalk and EtherTalk variants, and also offers access to AppleShare and Novell sharers.) This version, *Retrospect Remote*, comes with a Remote Control Panel which interrogates any attached network and enables you to install Remote system extensions on the target machines. Each machine is then able to access shared volumes, so that at the end of the day several users working together on a single project can have the up-to-date version of all relevant files waiting for them the next morning.

Of course, there's also the small question of paying for the privilege of having every user on the network enjoying their new found auto-backup advantages. This is taken care of by different multi-packs; you install a system by buying it in anything from three- to 50-user versions.

BACK UP TIPS

1. Make two or more separate backups of all your files the first time you back up
2. Alternate between the backup sets when you make subsequent backups
3. Always store at least one backup set off site to guard against fire and theft

override the process of retrieval. So in a situation where you've corrupted a document which you know you backed up on a certain date, you can call up the Snapshot and just restore that particular file. This is very handy if, like mine, your storage space is at a premium. You can back up and compress files you use only occasionally and delete the originals, so freeing up valuable hard disk space. When you need them again, you simply retrieve them from the remote volume! So there you are – security and savings in one single package.

RETROSPECT

Price: £155.10 (*Retrospect Remote*: £278.48) plus £10 handling charge per order. Out: now
Requires: any Mac with System 6.0.5 or later, at least 2Mb of RAM (4Mb when running System 7).
NB: the more files you have on your system the more memory it'll need to do its job. Here are the recommended figures of free memory needed for backing up large volumes:

1,700K for 3,500 files/folders
4,000K for 10,000 files/folders
6,000K for 20,000 files/folders
8,000K for 32,000 files/folders

Also, *Retrospect* won't run on any Mac running an electronic mail server unless it's using AppleShare 3.0.
For more details contact Principal on 0181 813 5656.

Features 94%
There's just about everything here you could hope for in a backup package.

Ease of use 90%
Dead easy to set up and use, with a clear and simple interface.

Documentation 92%
First class documentation; comprehensive with extensive trouble-shooting guide.

Value for money 75%
Pity it's too expensive for most people – a 'lite' version would go down a storm.

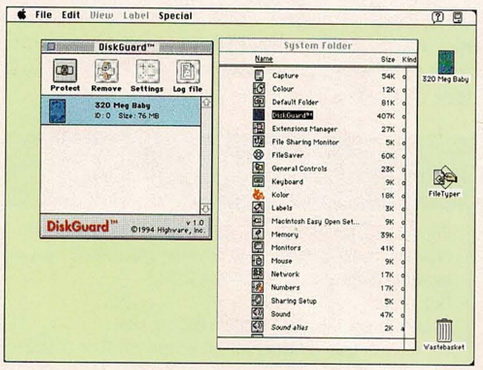
MACFORMAT RATING 88%

DISKGUARD

DiskGuard demands a password whenever your Mac is booted up – a well-used security device. It will also lock up your hard disk when your Mac has been idle for a set period, rather like a screen saver. Again, the password gains you access. There's also an option to provide limited access to specific folders – right up to the point of restricting access at certain times on certain dates! Very useful.

You might think that all anyone needs to do is insert a System disk and boot off that – thereby bypassing the security system. Well, no. *DiskGuard* can be configured to prevent this too. And even if you hold down the **[shift]** key on startup, it still kicks into gear. So what happens if you have a serious crash and need to boot off a floppy? Good question!

The answer is only partially convincing: *DiskGuard's* manual recommends that you back up your hard disk beforehand. Then you should run a disk utility such as *Disk First Aid* to check its integrity, remove all compression utilities



DiskGuard comes as a Control Panel; from here you can configure all its security features. You select your master password on installation (and use it ever after, of course).

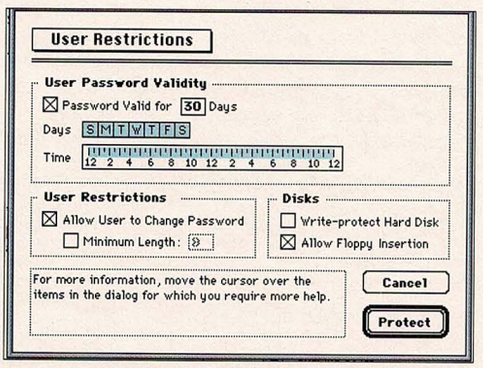
like *Stacker* and *Times Two*, and finally remove all other protection utilities.

On installing *DiskGuard* and entering a master password – which enables you to configure it – you're able to enter a user password for others, enabling them to gain access to specific folders. From then on, each user – including you – is asked for the password each time your Mac is started up. If you get it wrong after three attempts the Mac shuts down. Since you can define whether or not to allow floppy disk insertion, any disk will be ejected. If a System disk is inserted at startup, you'll be granted access to the Mac but not the hard disk.

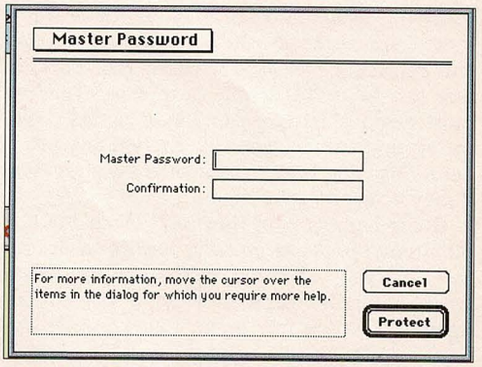
So the question remains: what happens if your hard disk crashes? Well, you better keep that original floppy safe and sound – probably after backing it up innumerable times – because there's a file on it called Emergency Remove. This enables you to enter your master password and disable *DiskGuard's* control over your hard disk. You can then get to work with diagnostic software and find out what the problem is.

This is all fine in theory, but how does *DiskGuard* perform against the determined hacker? I connected a SyQuest with onboard System software to my Mac and chose to ignore the requests for a password to its internal hard disk. My only choice was to unmount it, which left me with just the SyQuest showing on the Desktop. I then chose the SyQuest as the startup disk and rebooted. Again, the internal hard disk refused to mount.

I then ran *SCSI Probe* to attempt to mount the hidden internal hard disk. No luck – I was asked for the master password. I then tried four other disk utilities which recognised the pres-


User Restrictions
User Password Validity
Password Valid for 30 Days
Days S M T W T F S
Time 12 2 4 6 8 10 12 2 4 6 8 10 12
User Restrictions
Allow User to Change Password
Minimum Length: 5
Disks
Write-protect Hard Disk
Allow Floppy Insertion
For more information, move the cursor over the items in the dialog for which you require more help.
Cancel
Protect

Here you're able to set up a password for other users, and define exactly when they can use it to gain access to your machine. A log keeps track of all attempts – even down to people trying to bypass the system with a floppy disk.


Master Password
Master Password:
Confirmation:
For more information, move the cursor over the items in the dialog for which you require more help.
Cancel
Protect

Setting up protection is a breeze and initially involves nothing more than entering a master password – but don't forget it. I tried all kinds of ways to get past it. And failed...

ence of the internal drive, but each attempt to mount it was met with a request for my master password. Even *Norton Utilities* and *Mac Tools* failed. And *ResEdit* didn't get a look in either. Nuff said. I gave up. The only remedy would have been to reformat the drive, and since *DiskGuard* can even be configured to prevent that option, I think it passed with flying colours.

DISKGUARD

Price: from £104 (*DiskGuard Remote*, a network version, is available in a five-user pack for £392, and a ten-pack for £680). Out: now
Requires: any Mac running system 6.04 or later.
For more details contact Softline on 0181 401 0058.

Features 90%
No faults here – the security is tight yet transparent.

Ease of use 90%
No problems whatsoever, since there's great on-line support.

Documentation 88%
A little more on trouble-shooting would complete a thorough manual.

Value for money 85%
Not a bad price for peace of mind, but £49.99 would be better.

MACFORMAT RATING 88%

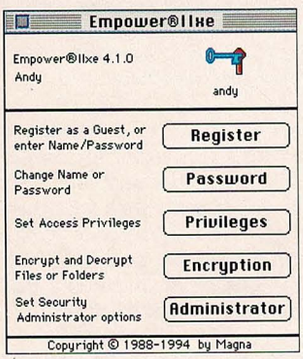
EMPOWER II

Empower II is the only Mac security program officially endorsed by Apple itself. The package shares many of the same features as *DiskGuard*. Again, the program is accessed as a Control Panel. It also has the same kind of built-in screen saver lock, and shares a similar approach, based on the notion of system administrator and users who are assigned passwords and varying access privilege. So on startup, you're asked to enter a master password which gives you access to your hard disk. Depending on what access privilege you've assigned to various other users, they may not be able even to see certain folders – let alone open them and copy, delete or make changes to their files.

This multi-user approach has one distinct advantage: you can always log on as a guest user,

so if your System Folder is left visible and unlocked, for instance, you'll never have a problem replacing files if your hard disk crashes. But just to make doubly sure that even the most devious hacker won't manage to break the security system you can encrypt any number of files – so they're completely useless even if they do get illegally copied.

Other highlights of *Empower* which mark it out from *DiskGuard* are: the facility to disable the emptying of the Wastebasket to certain users (handy for kids!); and the facility to configure selected Apple menu items and Extensions to load at startup time. Add to these the abilities to lock or release all networked volumes simultaneously, and to copy-protect individual files and applications, and you have some useful additions. Perhaps the best of all is the facility to unlock floppy access once your Mac has booted, thereby preventing anyone from copying files you may have inadvertently left unlocked.

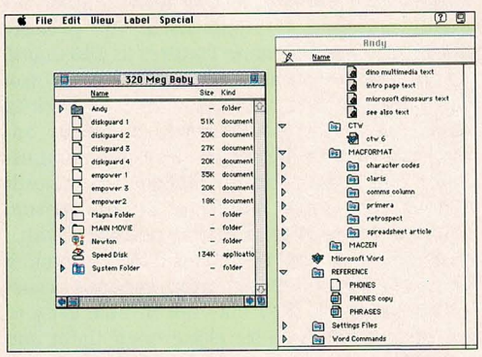


Empower is accessed as a Control Panel but **[control] E** gets you there in a trice.

From the privileges option you're able to specify exactly how other users will be able to use your Mac. You can even make folders and files invisible, as well as disable all of a folder's attributes.

The only downside to this mass of useful functions is the greater sophistication demanded in using the product effectively – although once you've got the hang of it you wonder what the problem was.

Empower offers the same security as *DiskGuard* in being able to disable floppy insertions and make internal hard disks immune to mounting, and more besides. I ran the same tests to try and crack *Empower* – with the same lack of success.



The results speak for themselves: none of the folders or the files they contain can be opened, renamed, copied or deleted. In other words, it's a lockout!

EMPOWER II

Price: £280. (*Empower I*, which excludes the encryption facilities, guest group access privilege and control over individual files and folders, costs £151.)
Out: now
Requires: any Mac with System 6.04 or later.
For more details contact Amtech International on 01202 476977.

Features 95%
Comprehensive range of heavy-duty security utilities covering all possible eventualities.

Ease of use 80%
There's so much here that it takes some getting used to.

Documentation 90%
Thorough, with plenty of trouble-shooting and explanation.

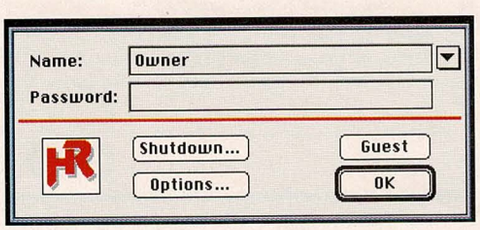
Value for money 80%
A tad over-priced. Half the price would be fairer.

MACFORMAT RATING 87%

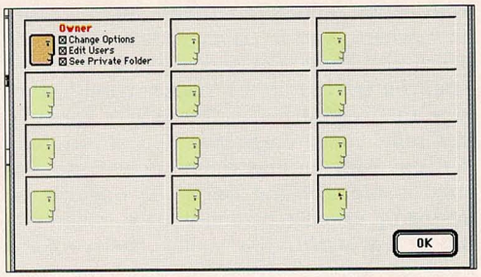
LOCKSMITH

Judging by its price – a mere £41 – you might be forgiven for thinking that *LockSmith* lacks many of the features to be found in *DiskGuard* and *Empower*. And you'd be right. What *LockSmith* offers is a master disk which you use to install a System Extension; this Extension handles limited security. As the owner, or system administrator, you can configure *LockSmith* to admit guest users to your machine – either as remote users on a network or as individuals starting up your machine directly – and define how much access they have to your files.

The approach is much simpler than either of the other utilities. On installation a folder named Private Folder is created on your hard disk. You can store your valuable and sensitive applications and documents in this folder and then make it invisible to all but yourself. In addition you can set up *LockSmith* so that the hard disk is protected to the point where files can't be deleted from it; copying from it is still possible. You can also make the *LockSmith* System Extension impervious to bypassing by disabling the [shift] key on startup. But the strength or weakness of *LockSmith* rests on its Private Folder in which you place your important files.



LockSmith's low-key front-end disguises a wonderfully effective little program. You can configure it for any number of named individuals and set their privileges accordingly.



Here's where you'd change a user's privileges. My Mac's not networked up so none of the other users appear, but it's that Private Folder that holds the key to this locking device.

That option 'sticky unless admin' means that the *LockSmith* System Extension can't be moved, renamed or deleted. It sticks where it was installed. There's also an option here to activate a screen saver after a preset time.

If you log on as a guest, the Private Folder remains invisible. If you load up *ResEdit* it appears readily available for editing and copying, but since the hard disk has been write-protected you can't actually change its attributes. Therefore its contents can't be viewed or copied. A good job really, otherwise that'd be £40 down the drain. More devious methods brought to bear, involving heavyweights like *Norton Utilities* and *MacTools*, also failed to open the contents of the Private Folder, simply because the entire hard disk on which it resided was write-protected. Every attempt was met with the error warning 'you don't have the access privileges'. So I gave up. Conclusion? Wonderfully simple, wonderfully effective.

LOCKSMITH

Price: £41 (discounts for multiple copies). Out: now
Requires: any Mac with System 6.04 or later.
For more details contact Hi Resolution on 01892 891291.

Features 80%
Not the same breadth of features here, but *LockSmith* gets the job done.

Ease of use 95%
Nothing could be easier – five minutes installation and you're protected.

Documentation 85%
Thin – but there's not much that needs to be said.

Value for money 95%
You can't really argue with £40 for peace of mind.

MACFORMAT RATING 89%

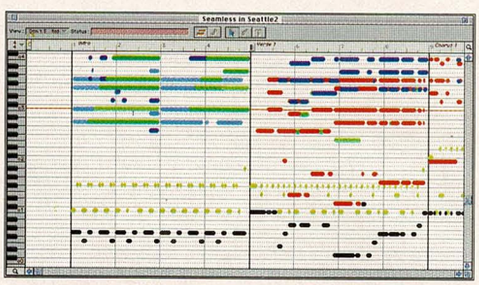
FreeStyle music making

If you want to arrange music on your Mac but know more about drum beats than hard drives, you need a user-friendly sequencer. Ian Waugh looks at one of the best you can buy.

One of the problems facing newcomers to sequencing is that the sequencer can get in the way of making music. It's often a problem for old-hands too. Modern sequencers are incredibly powerful but they have so many options that operating one can be a science in itself, and the whole process can hamper creativity.

FreeStyle has a unique approach to sequencing – no tracks, no MIDI channels, no program change numbers! When you want to make music you use Ensembles, Players, Takes, Arrangements, Sections and Songs. It's very much oriented towards the musician rather than the computer-user. So if you're coming to sequencing for the first time, or from an audio-recording background, you should feel right at home.

So how do you record music if there are no tracks? The first thing to do is to select an **Ensemble** to suit the music you want to compose.



In the Grid Editor, the different Sections are named at the top of the display – Intro, Verse 1 and Chorus 1 – and each Player is conveniently shown in a different colour.

Jargon Busters

General MIDI: an agreed set of sounds so a file configured to GM will sound roughly the same when played on any GM module.
Pickup notes: notes which occur before the actual start of a section.
Legato: holding notes down slightly longer than their duration so the passage flows smoothly.
Staccato: not holding notes for their full duration so there is a small gap between them.
Transposing instrument: an instrument which sounds at a different pitch to the notes on the stave.

Ensembles include Rock Band, String Quartet, Synth Ensemble, Orchestra, Jazz Combo, Piano, Big Band, and so on.

Each Ensemble has a number of Players, or instruments. In the case of the Rock Band, for example, the instruments listed are Piano, Guitar, Organ, Horns, Bass and Drums. The Jazz Combo consists of Tenor Sax, Vibes, Piano, Bass and Drums. And the Orchestra Ensemble consists of 17 orchestral instruments. You can add Players to an Ensemble and create your own; the whole process is very flexible.

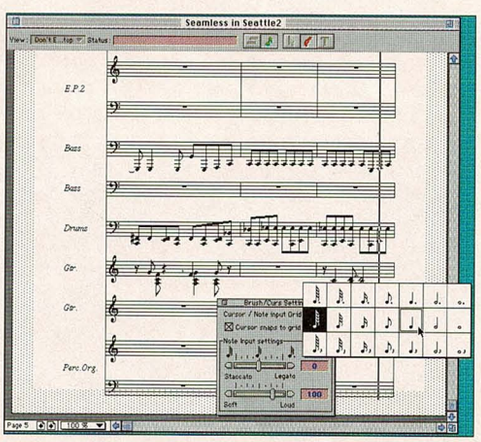
Once you've selected an Ensemble, the next step is to get it to play something. Let's say you're using a Rock Band and decide to lay down a piano track. Select the **Piano Player** in the **Ensemble** window, click on **Record** – and off you go.

Recording: take one

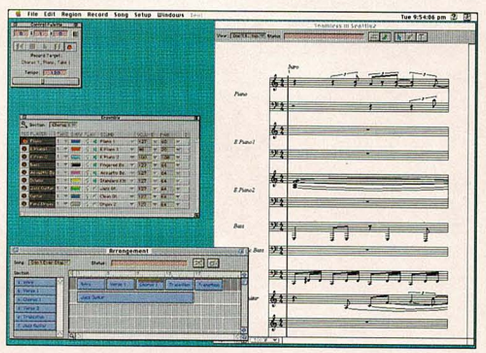
There are several options here to help you with recording. For example, most sequencers use a click sound as a metronome – played either over MIDI or through the Mac's speaker. *FreeStyle* has this option too, but it can also play a drum riff. This is much more natural and helps get you into the feel of the music.

There are over 30 riffs to choose from, including rock, rap, Latin, country, blues, and jazz patterns. You can create your own too. Simply drop them into the Metronomes folder and they appear in the program automatically.

FreeStyle has extensive looping facilities. Let's say you want to record a four-bar intro. You can make the program cycle around the first bar – the count-in – until you play a note. Then it will loop around the four bars of music. It will also record any pick-up notes which occur before the first bar.



Painting notes into the score is easy using the Brush tool. And there are pop-up menus to enable you to set things like note durations and staccato/legato and velocity values.

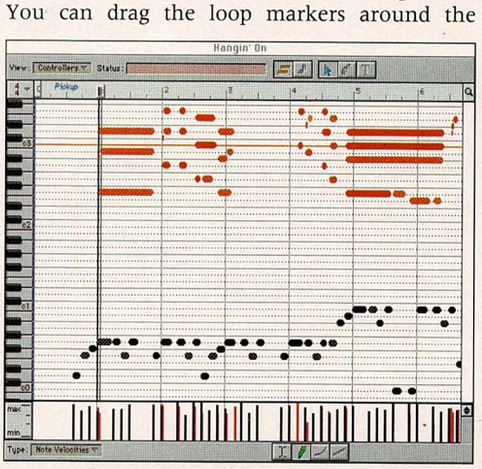


These are the main displays in *FreeStyle*: (from the top left) the Transport Controls, the Players in the Ensemble window, the Arrangement and the Notation Editor.

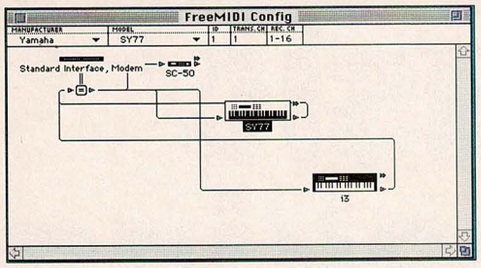
Okay: you've recorded the piano but you think you could have done it better. No problem. Simply record another Take – the program is still looping. Still not sure? Then record another one. The program remembers all the Takes and you can select the best one later on.

Next you can record the bass or guitar or lay down the drum track. Again, you can record Takes until you're happy with the result.

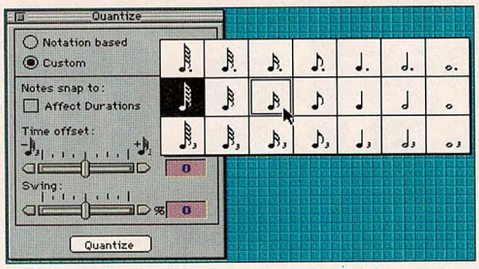
That's the intro. Now you want to record the verse. Select **New Section** from the **Record** menu, name it **Verse** and repeat the process. You can drag the loop markers around the



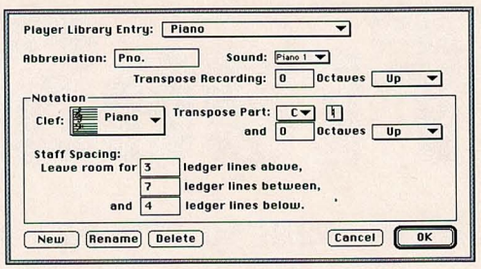
The Controller Editor is below the Grid Editor. Here the velocities of the red and black Players (the piano and bass respectively) are shown beneath the notes.



The *FreeMIDI* program tells *FreeStyle* about the equipment in your studio. Each instrument can be assigned to a MIDI interface and set to respond to specific MIDI channels.



The Quantise window lets you select a duration value, a time offset and a swing percentage for notes, which helps you pull sloppily played notes back onto the beat. Very handy.



A Player definition contains all the information to enable *FreeStyle* to display it correctly on the stave, and also adjust its key signature if required during print-out.

screen if you want an eight- or 16-bar verse.

You'll probably end up with several Sections of music – intro, verse, chorus, middle eight, ending and so on. So the next job is to link them together to form a Song in the Arrangement window. The Sections appear on the left and you simply drag them onto the grid at the required positions.

This is a bit like pattern-based recording, as featured in most Mac sequencers – including *FreeStyle's* bigger brother, *Performer*, Steinberg's *Cubase* and Emagic's *Logic*. But you'll notice that we haven't yet mentioned tracks, MIDI channels or program numbers. How's it done?

Putting it together

Well, before you can actually start to use *FreeStyle*, you have to tell it what instruments are attached to your Mac. You do this with a program called *FreeMIDI*, which scans the MIDI interface for devices attached to the modem and printer ports.

The system is ideal for use with General MIDI instruments, and the more advanced user can create custom settings to suit his own studio. *FreeMIDI* has configurations for over 250 devices, including effects processors, samplers and MIDI-controlled tape machines. If your gear isn't here you've got something unusual, but it's not difficult to create your own set-ups.

During recording you don't see any tracks. What you see is either a Notation Editor or Graphic Editor. The Notation Editor shows notes in traditional notation on the stave. It can show as many Players as you wish, each on its own stave.

The Graphic Editor is similar to the Piano Roll Editor found on many sequencers. Notes are shown on a grid against a keyboard which runs down the left of the window. Each Player is shown in a different colour. With several Players this can still be a little confusing but you can hide selected Players to make the display easier to read.

Both Editors enable you to edit notes by clicking-and-dragging. You can click-and-drag a box around a group of notes for block edits, and the program supports the usual cut, copy and paste functions. You can also enter notes into an Editor with the mouse. A pop-up box enables you to select note durations.

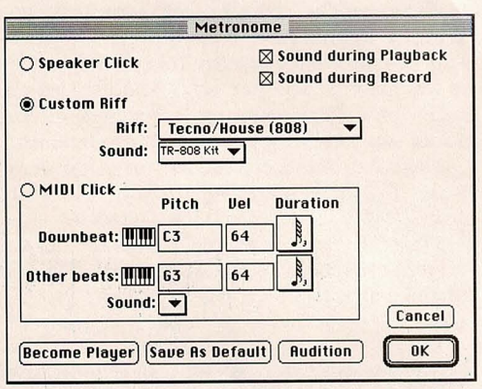
You can add text to the score via the Notation Editor (although there is no support for music symbols) and also print it out. You can print individual parts of a score and if an instrument is a transposing instrument, it is automatically transposed to the correct key.

The Quantisation function pulls sloppily-played notes onto the beat. There is no partial quantise function which would help retain a little human timing – that is, errors! – but there is a swing setting and this gives a 'shuffle' feel to a recording.

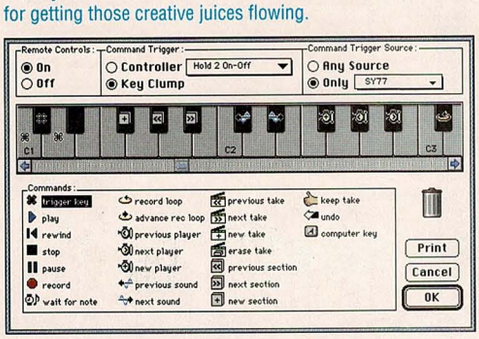
A Controller Editor enables you to adjust the velocities of notes, pitch bend data, volume, pan position or, in fact, any of MIDI's controller messages. But the program has no Event Editor to list each note and item of MIDI data. Nor does it actively support System Exclusive messages. This probably won't worry most users but it could limit the more advanced musician.

The program is so concerned that you should be able to make music without the computer getting in the way that you can control most of the record functions from your MIDI keyboard.

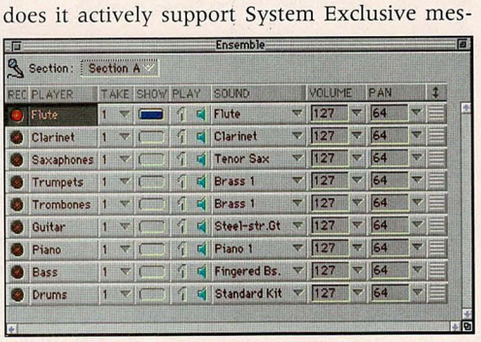
FreeStyle can read Standard MIDI Files but only in Format 1, which has each MIDI channel on a different track. It ignores program changes in the middle of a track, and also tempo changes. This isn't surprising as you can't implement a tempo change in the sequencer itself. Not all music runs at one tempo, so I think this is a criminal omission.



No more uninspiring tick-tock metronomes to endure with *FreeStyle*. You can choose one of several drum riffs – ideal for getting those creative juices flowing.



You can control *FreeStyle* from your MIDI keyboard by setting up a sequence of special key commands. You don't even have to touch the mouse to record a song.


Ensemble
Section: Section A
REC PLAYER TAKE SHOW PLAY SOUND VOLUME PAN
Flute 1 Flute 127 64
Clarinet 1 Clarinet 127 64
Saxaphones 1 Tenor Sax 127 64
Trumpets 1 Brass 1 127 64
Trombones 1 Brass 1 127 64
Guitar 1 Steel-str.Gt 127 64
Piano 1 Piano 1 127 64
Bass 1 Fingered Bs. 127 64
Drums 1 Standard Kit 127 64

FreeStyle's Ensembles offer a complete group of musicians ready to record. This is the Big Band line-up. Others available include the Rock Band, String Quartet and Synth Ensemble.

The right mix

The manual is superb – and in colour, too! There is also a tutorial video, which is extremely well done. Watch it and you can't fail to get up and running quickly and easily.

In spite of a few shortcomings, *FreeStyle* is an excellent introduction to sequencing, with some very powerful and unique features. It would also suit more advanced users who want a sequencer which enables them to make music without clogging up the business with techno talk and lots of processing functions.

It's nice to see that the maker, Mark of the Unicorn, has thought seriously about the program's design and not just launched a cut-down version of its flagship sequencer, *Performer*. *FreeStyle* brings a welcome freshness to the mid-range sequencer market. *Ian Waugh*

FREESTYLE

Price: £179 Out: now
Requires: Mac II, Colour Classic or better, 6Mb RAM, System 7.0.1 or later. Colour monitor recommended.
For more details contact Klemm Music Technology on 01462 733310.

Features 80%
Excellent for the beginner, but a few annoying omissions for the more advanced user.

Ease of use 88%
Once the program knows what equipment you have you can simply switch on and play.

Documentation 96%
One of the best sequencer manuals yet written – and a video, too!

Value for money 85%
More expensive than some budget sequencers but still good VFM.

MACFORMAT RATING 90%

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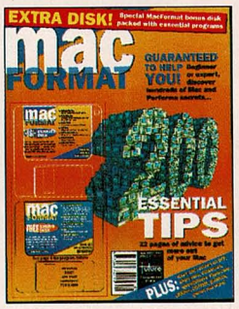
■ **Inside:** Computing on the move; PowerCD on test; Photo CD software; 50 *QuarkXPress* tips; PowerBook buyer's guide plus how to design effective posters

ISSUE 6

November 1993

■ **On the disk:** demo of *Civilization; Eclipse; Tetris 2000; Startup Downloader, The Grouch*

■ **Inside:** How to choose and use a scanner - from hand helds to flatbeds; *Morph 2; AutoRoute* and C.A.T reviewed; 50 *PageMaker* tips; plus *Claris Brushstrokes*



ISSUE 8

January 1994

■ **On the disks:** *NIH Image; Graphic Converter; Maelstrom; Mariner; AutoRoute* demo

■ **Inside:** Loads of Mac and Performa secrets revealed - 200 top tips in all; Adobe *Dimensions* reviewed; review of *WordPerfect 3.0;* plus how to design covers

ISSUE 9

February 1994

■ **On the disk:** *SimCity 2000 demo; Greg's Browers; Bobzilla; QuarkXPress 3.2* patcher

■ **Inside:** Bumper games guide: *SimCity 2000, Populous, Myst* and more; *FreeHand 4* reviewed; tips for keeping your Mac safe; plus language tuition software

ISSUE 10

March 1994

■ **On the disk:** Over 30 indispensable True Type fonts; *Apollo* and *Disinfectant 3.3*

■ **Inside:** Integrated packages head-to-head; tips and tricks on graphics; *Creative Writer* review; *FA/18 Strike Hornet* review; plus Canon BJC-600 printer on test

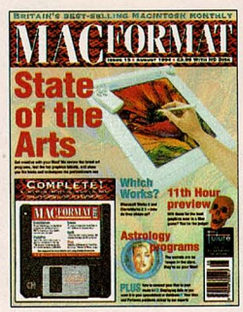
ISSUE 13

June 1994

■ **On the disk:** *Syndicate* demo; *Disinfectant 3.41; IconBOSS*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** How to double your RAM and disk space – without buying extra hardware; *Print Shop Deluxe; ColorStation*; Fargo Primera printer



ISSUE 15

August 1994

■ **On the disk:** *GrayStation; Vistapro* demo; *Quill*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** art on the Mac, including reviews of *Dabbler, Fine Artist* – and the Wacom, CalComp and Summagraphics tablets

ISSUE 16

September 1994

■ **On the disk:** *ColorStation 2* and *HomePublisher* demos

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** our guide to weird Mac software; plus reviews of *Multimedia Workshop, Home-Publisher* and *Return to Zork*

ISSUE 17

October 1994

■ **On the disk:** *Crunch 2.0* and *Conflict Catcher* demo

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** discover how to future-proof your Mac with our top add-ons; plus reviews of *Sensory Overload* and *WordPerfect 3*

ISSUE 18

November 1994

■ **On the disks:** Internet software bundle; troubleshooting utilities

■ **On the CD-ROM:** *ClarisWorks 2.1, Rebel Assault* and *Sensory Overload* demos

■ **Inside:** How to beat those startup problems; plus *Norton Utilities 3* vs *MacTools 3*

ISSUE 19

December 1994

■ **On the disk:** Hot action with *Wolfenstein 3D; Kid Pix*

■ **On the CD-ROM:** Games galore; *Now Utilities 5.0, Links Pro* demo; plus loads more

■ **Inside:** The lowdown on accelerators; the 20 top Mac games; plus SCSI troubleshooting

ISSUE 20

January 1995

■ **On the disk:** Build worlds with *Fractal 1.2;* plus *Maniac 2.1.1*

■ **On the CD-ROM:** Demos of *Painter 3.0, PowerMonger; Vistapro,* and *Four Paws of Crab*

■ **Inside:** Virtual reality special: *KPT Bryce* and *Star Trek Tech Manual; Word 6* vs *Nisus Writer*

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■ **On the disks:** Edit video on your Mac with *VideoShop 2.0;* plus 3Mb of games and utilities

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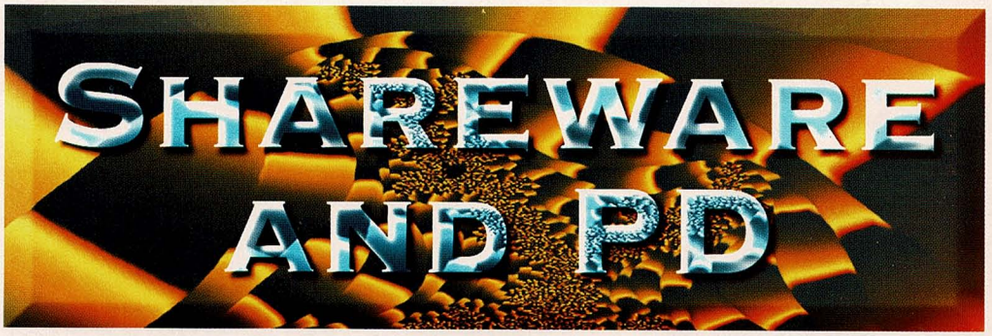
■ **Inside:** Video editing on Macs: how to do it and what you need; plus budget Mac games; and what to buy if you run out of disk space



Another fine catch of shareware from the 'Net, fished for and gutted by Derek Smith. All guaranteed fit for consumption, especially those games he selflessly tested and tested...

There seems to be a new trend on the Internet: folders full of sampled sounds from films. I must have downloaded 40Mb of compressed samples this month. Don't bother looking for them on the CD-ROM, though. The copyright on these is highly dubious as they seem to have been ripped off from videos, and I don't want Mr Spielberg suing my bottom off. What I do have, though, are some fascinating programs and utilities. So on with the tour...

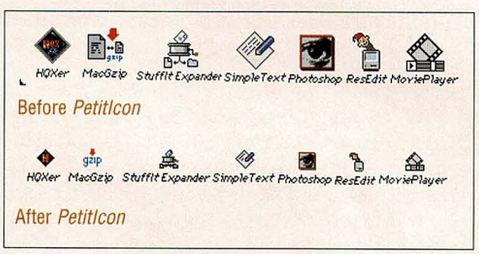
PetitIcon 1.1

DESKTOP ORGANIZER

Freeware

When I heard that System 7 was going to have drag and drop, I wasn't terribly excited. It just reminded me of my love life. But to my surprise, it turned out to be very useful. When you dragged a graphic file onto the icon of *Photoshop*, the program opened it automatically. As a result of this useful feature, my Desktop soon became cluttered with the aliases of every application I had installed on my Mac. In terms of sheer untidiness, it was only rivalled by my **Apple** menu, which had so many items in it that it took me three-and-a-half minutes to open *ZTerm*. But hey, that's efficiency for you.

PetitIcon looks set to clear my cluttered Desktop. Drag an icon onto it, and it automatically creates an alias on your Desktop, only *this* time it's a small icon. Effectively, these icons are similar to the ones you get when you select **by Small Icon** from the **View** menu. So now I have a tidier Desktop – with yet another application alias on it. Well, I need *PetitIcon* close to hand. And just to be sure, I put an alias of it in my **Apple** menu too.



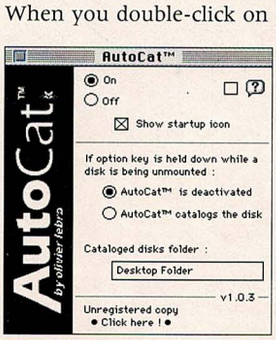
AutoCat

CATALOGUER

Shareware $10

In MACFORMAT 21 we published a review of *CD Directory*, a program that automatically catalogues your CD-ROM collection every time you insert a disc. Great for CD-ROMs, but what about those of us who aren't lucky enough to have a CD-ROM drive, but have a floppy collection large enough to back up a mainframe? *AutoCat* comes, er, purring to the rescue.

Whenever you eject a floppy disk from your Mac, its Desktop file is saved to a folder on your hard disk. This fools the computer into thinking that the actual disk is still in the disk drive. When you double-click on this copy of the disk icon, it has the same effect as double-clicking on the original floppy – it will open up to show you the files and folders that are stored on it.



No, *AutoCat* doesn't automatically feed the cat and put it out at night; it creates a catalogue of your floppy disks.

This enables you to search through your floppy collection without having to keep inserting the appropriate disks. But the real benefit becomes apparent when you realise that the **Find** command from the **File** menu will search through all of these Desktop files.

When you double-click on an application or a file, you then get a request to insert the appropriate floppy. This is a marvellous little program that will prove indispensable to anyone tired of wading through piles of floppies.

Blue Box & Kitty Litter

ICONS

Freeware

I remember the first time I used a Mac and needed to delete something. Putting a file into the wastebasket seemed like a natural thing, and I laughed when the bin promptly put on weight. Okay, so it's not the best joke in the world, but some of us don't get out that much.

After a while, though, it all becomes a bit tedious. I mean, once you've seen one obese wastebasket, you've seen them all. An anonymous American (there's a rarity) has created two alternatives to the bin icon. The first is a blue recycling skip that fills with garbage. The second is a kitty litter tray which... appears to start smelling.

It's a harmless bit of fun that will customise your Desktop. Installation might be a bit tricky because you'll need to use a program like *ResEdit*, but it's worth the effort.

Swap your old wastebasket for a new set of icons with Blue Box and Kitty Litter, two *ResEdit* files.

ClipStation

UTILITY

Freeware

I had been resisting the upgrade to System 7.5 because it uses even more RAM than 7.1. When my Mac recently crashed and needed the System re-installed, I decided that now was the

Where to find them

We often get calls from keen readers who want to know where they can get hold of some of the shareware we review in these pages. Well, here are some of the methods:

1. Buy the CD-ROM edition of MACFORMAT, because all the shareware we review is on there in a separate folder. There's also a wealth of other shareware on the CD, which we've sorted into categories for you.

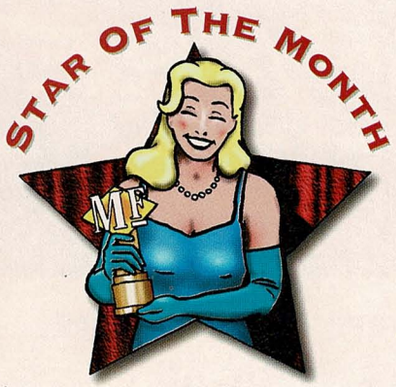
2. Write to a shareware dealer; there are several who advertise in the back of MACFORMAT. The dealer should have the program you are after, especially if they subscribe to our CD-ROM edition!

3. Use the Internet, if you have access. One of the best sources around is Imperial College at **src.doc.ic.ac.uk**. Use ftp to connect (login: anonymous; password: your e-Mail address) and cd to computing/systems/mac. Personally, I use the umich directory, but sumex is fine as well.

4. In a few months we will be setting up our own bulletin board using a brand new version of a wonderful BBS program, which should be absolutely brilliant, and a joy to use. We will let you know as soon as it is up and running.

5. Local user groups often have libraries of shareware, so see if you have one near you. There are some listed in our Reader Ads section (see page 122).

Finally, wherever you get your shareware, beware of viruses. At the time of going to press, *Disinfectant 3.5* (on MACFORMAT 14's cover disk) was the best and cheapest way of staying safe.



Converter 1.2

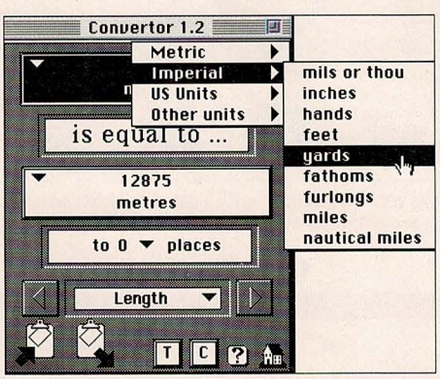
NUMERIC CONVERSIONS

Freeware

This is a gem of a *HyperCard* stack, written by Mike Cowley from Birmingham. He sent it in for inclusion on the CD, but it was so good that I had to include it on these pages. What it does is simple. It will convert just about any measurement into any other measurement. Ideal for those mere mortals like myself who can't remember how many grammes there are in an ounce. No one will be happier than the people who have to eat my soggy cakes.

I've come across shareware programs that told you the ratios between different units of measurements, but what I like about this stack is that it does all the maths for you. It's fine to know how many kilometres to the mile, but usually you want to know how many kilometres are in 5.73 miles or whatever. *Converter* handles problems like this with ease.

You can copy the result to the clipboard, ready to be pasted into another application with a click of the mouse. Operation is as easy as it possibly could be, and the whole thing works well. The one problem is that it requires *HyperCard*. If you want to keep *Converter* open in the background, then this can be a fair chunk of memory. A stand-alone application would take much less RAM, but hey, it's free and it's British.



With *Converter 1.2* you can find out how many feet in a metre, pints in a litre, pounds in a kilogram, furlongs in a kilometre, squirrels in a tree…

moment to try it. I've been pleasantly surprised by the usefulness of some of the new features – despite the fact that it's a real pain to get a white Desktop.

One of the new features is the ability to drag-and-drop text and graphics between documents within an application, and even between different applications. Imagine that you've just drawn a picture in your graphics program and want to put it in your word processor. Instead of copying and pasting you can just drag it across between windows.

Unfortunately, you may need to keep imagining this scenario for a while; software has to be written to include this feature, so many current programs won't support it – until a new version comes out.

To bridge the gap until that happens there's *ClipStation*. If you're using a System 7.5 savvy program, you can drag text or graphics onto *ClipStation*. This has the same effect as copying it – you can now select a non-7.5 savvy program and paste the item.

Handy, yes? Well, to be completely honest, no. The problem with this dragging-and-dropping is that it's only a fraction easier and quicker than copying and pasting. Putting another application between the processes only ends up making it more hassle. Still, it's a very nice example of programming and I'm sure the author's mum is very proud.

DiskLocker 1.2

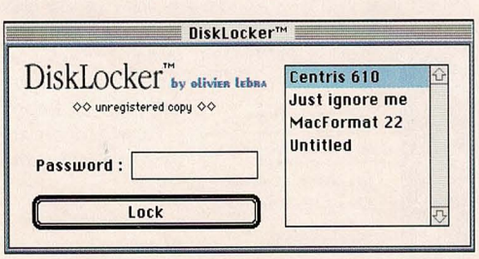
SECURITY

Shareware $10

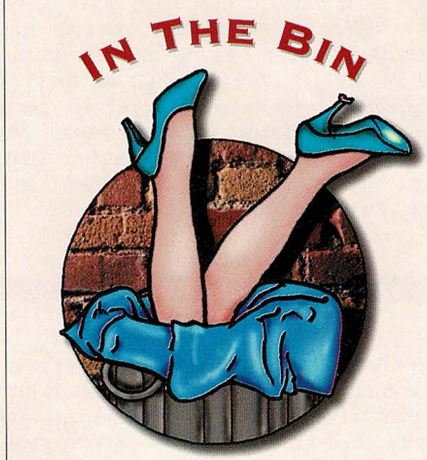
This program caught my attention as the Read Me file claimed that it could lock disks – a useful security device, especially for around $10. I approached it cautiously as I'd had a rather unpleasant run-in with a program called *PowerLock* a few months back. *PowerLock's* main purpose was to lock you out of your hard disk, which it did very efficiently. Even if you remembered the bloody password. This made my machine very secure indeed. But I think *PowerLock* and I had different ideas on security.

When you open *DiskLocker*, you're presented with a simple window listing all disks currently on the Desktop, including floppies and SyQuest cartridges. Click on one of them, type in a password and click **Lock**. Being the nervous type and remembering my previous experience, I tried this out on an unimportant floppy.

I then quitted the program and tried to access the floppy. It quite happily allowed me to open it up and copy files from it. So where's the security? Well, you can't alter anything or save files to the floppy. In other words, it's the same as flicking the little plastic tab. I can see



DiskLocker offers a little bit of basic security to stop strange people mucking around with your floppies. I know folk who pay good money for that.



Salamander Tales

MUSIC

Freeware

While cruising the Internet (a term designed to suggest that I know what I'm doing with a modem), I came across some interesting new stuff featured in the 'information super bypass' box on page 107. Among these items was a file called *Salamander Tales*, which, by no coincidence, is the name of a new American band. Now this band has a problem. They think they are really good, but the world hasn't heard of them. So what do they do? They release a demo onto the Internet, that's what.

When you double click on their program, you're presented with some garish psychedelic screens with their music blaring at full tilt in the background. You get to do some exciting things like reading some of their reviews and reading some details of the band. Wow!

Bearing in mind that this file is around 2.5Mb in size, it would cost most people a fair amount of phone time to download it. But why would anyone bother when they wouldn't know what it is? To download this file you would need to be a very sad person with nothing better to do than play with your modem. Er, I didn't download it myself, it was this guy I know…

Take a bad sixties trip on your Mac with *Salamander Tales*, one of these new loud pop groups. I expect they all have long hair and ripped jeans. Tut tut.

THE INFORMATION SUPER BYPASS

Shareware sites on the Internet are growing and evolving. Apart from the usual games and utilities, we are starting to see the appearance of magazines, poetry, music and opinion. It's debatable whether this is a good thing or not. Self expression is fine, but are shareware sites the place for it? This month we take a look at the more informative side of shareware, and kick off with a bit of that poetry...

And Through My Eyes

POETRY

Freeware

Culture on the Internet! What is the world coming to? This is a *HyperCard* stack, featuring a collection of poetry by Larry Kyrala. It contains such words of wisdom as 'Beware the child, for the creator of worlds may be taught by the selfish to destroy them.' Well, I certainly agree about being wary of kids, but where I live they tend to let car tyres down rather than destroying worlds.

Most of this poetry is rather pretentious and struggles to be art, but some of it is actually worth reading. And it does add a bit a variety to the usual shareware diet of shooting aliens. Maybe the author could combine both subjects... 'Your hand so gentle as a dove, that swoops and dances, just like a space invader'. Hmm, maybe *I* should take up poetry.

Download a bit of ready-made culture with this *HyperCard* stack called *And Through My Eyes*.

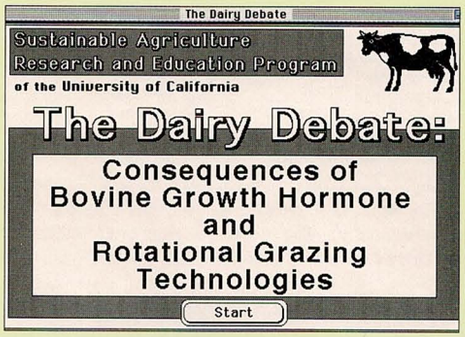
The Dairy Debate

HYPERCARD BOOK

Freeware

As president of the British branch of MCOTI (More Cows On The Internet) I was very pleased to find this stack. It is produced to coincide with the publication of a book about the same subject – the *HyperCard* equivalent of celebrities appearing on chat shows to plug their book.

The subject matter concentrates on genetically engineered bovine growth-hormone. As you progress through the stack you learn all about antibiotic-resistant pathogenic organisms. Apparently there's some fuss about all this stuff being carcinogenic, whatever that is. It all seems rather irrelevant to me. The end result is that we get more milk from the same number of cows. Okay, I admit that we don't need it because there is a milk lake, but that's progress for you.



Join in the great dairy debate and get to inject a cow with some lovely artificial bovine growth-hormone. Yummy! And it makes the butter glow in the dark.

The idea of promoting your book by putting a *HyperCard* stack of it on the Internet is intriguing. I can't wait for interactive version of the 1995 Train Spotters' Annual.

PatsUniverse 2.2

VIRTUAL OFFICE

Freeware

This piece of weird multimedia was created with Macromedia's *Director* by Pat Ortman. When you open the program, you're presented with a virtual office. It's obviously not a real office because there's no spilled coffee, overflowing wastebaskets, or untidy heaps of paper or magazines strewn all over the floor.

When you click on various parts of the screen different things happen. For example, when you click on the guitar you get a lovely three-second sample of a rock guitarist falling down the stairs. At least that's what I think it's supposed to be.

Click on the desk drawer and you are presented with the author's photo, and isn't he a pretty boy! Click on the book case and you'll see his CV. And this is what the whole program is really about. It's a glorified job hunt, with a person not only giving his credentials, but actually demonstrating his skills. This is a fascinating idea and it could easily catch on.

Apparently this is Pat's Universe. My universe is somewhat larger, with stars, a sun and a moon in it. But then again, it isn't decorated in such brilliant colours.

that this could be useful, giving people access to a disk without the ability to change anything, but I had hoped for rather more. Surely the most important thing is to stop people accessing the data on a disk. I suppose you can't have everything. And at least I didn't get locked out of my hard disk this time.

FreeRAM 1.3.1

MEMORY

Shareware $10

When you open this program you get a little box on your screen showing you the amount of RAM that's unused. This is the same figure that you get when you choose **About This Macintosh** from the Desktop. Well, actually it's not the same figure. It's slightly wrong, but the program comes with a widget that can help correct this minor flaw.

So there you are with a little window telling you how much memory you have left. You might wonder, 'Why not just use the **About** window?' Me too! I could see a point if *FreeRAM's* window was always at the front, but as soon as you open another application, it's hidden. Admittedly it does give you the option of viewing the figure in one of several delightful colours, including a very fetching purple. But, apologies to the author, you won't be getting my $10. Sorry.

Prince of Destruction

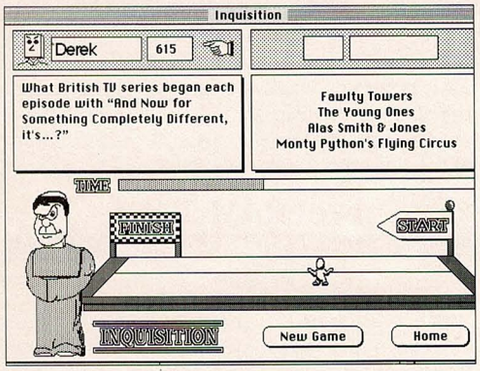
ROLE-PLAYING GAME

Shareware £18

I do like a quick slash. Nothing more satisfying than whipping out my weapon and waving it about, and this game provides plenty of that. In true role-playing game style you can choose to play one of several characters. There's a big hunky barbarian, but I didn't pick this chap because I wanted something different from real life. I passed up the opportunity to play a pointy-eared elf and plumped instead for a warrior girlie. Not that this represents some deep hidden desire on my part. It's just that she had a very pretty dress...

The game looks very good indeed. Unfortunately the controls are somewhat confusing, and I tended to get hacked into little bits rather quickly. But it's not all violence; you can talk to people. While it's best to avoid any conversations that start, 'Hello monster, that's a jolly

The role-playing *Prince of Destruction* is a beautiful-looking beast that has obviously had a lot of time and attention lavished on it. Rather like me really.



I'm not sure of the answer to that question, but I do know one thing: no one expects the Spanish Inquisition!

big axe you have', you can attempt some dialogue. The parser seems rather limited though: you end up trying seven different ways of wording a question to get any other response than 'Do go on'.

There are all the usual spells and potions you would expect from a fantasy game and plenty of monstrous sprites to do battle with. But I found the characters too small, the controls too fiddly, and my dress too long. A good try, but it just doesn't quite work.

Inquisition 1.5

TRIVIA GAME

Freeware

This is a *HyperCard* trivia game for one or two players. There are three categories of questions: Movies, Literature, and Music. I did have trouble with some of the eighteenth century poets and musicians, but I managed to make up for it all with my in-depth knowledge of the finer points of *Baywatch*.

The questions come in the form of multiple choice, with each question having four possible answers. You only have ten seconds to answer each question, and herein lies my criticism of an otherwise fine game. The cursor keeps disappearing as you try to click on your chosen answer, often meaning that you click on the wrong one. This did help improve my score, but it's still frustrating.

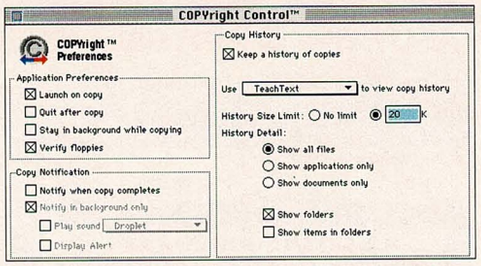
A slightly more polished version could go down well at a party. Mind you, Macs very rarely get asked out to the best parties.

CONFUSED ABOUT SHAREWARE?

Shareware is a form of 'try before you buy' software selling and it's a great idea so long as people are honest. When you get some shareware, the documentation will tell you how much it costs – typically it's somewhere between $5 and $40 – and where to send your money. If you like the software and decide to keep it, then you are morally obliged to cough up. Not only do you get the satisfaction of boasting to friends about how honest you are, but the author will often give you something in return, like a printed manual, or updates when released. The most common problem is sending money abroad, but as many shareware authors now accept credit cards, it's getting easier.

Freeware means that you don't have to pay for it at all. There are many derivations such as postcardware, which means that you have to send a pretty postcard to the author.

However, freeware is not the same as Public Domain (PD) because although you don't pay for freeware, the author keeps copyright and you have to follow his terms and conditions to use the program. This often means keeping all the files together and not using or selling them for profit.



Just like magic, *COPYright Pro* will copy files in the background without stopping you from working on something else. That's exactly what editors are for.

COPYright Pro Demo

BACKGROUND COPIER

Freeware

Copying files can be a real pain. I often have to copy large numbers of files, especially across networks – which is always slow. Once copying has started you can't access the Desktop at all. You can do *some* work as long as you've opened the desired application before you start copying. You just access the program from the application menu in the top-right-hand corner of your screen.

This is very limiting, however. Imagine you want to print. You can't because *PrintMonitor* is a program and therefore can't open when you are copying. *COPYright Pro* is one of the best utilities I've come across for years. Once it's installed, all your copying happens transparently in the background, leaving you with complete access to your Mac. You can open windows, load programs, even empty the Wastebasket. Unfortunately this is a time-limited demo, so if you like it ring the number in the Read Me file to order a copy.

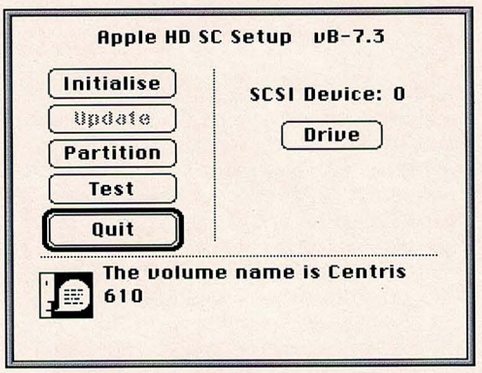
One word of warning: *COPYright Pro* steadfastly refuses to work with System 7.5 on my Mac, only working with System 7.1. Apple has said that all 7.1-friendly applications should work with 7.5, but I've already found several that don't. We would be interested to hear of any problems that you have encountered too.

SetupPartitions

DISK PARTITIONER

Shareware $10

If you have a hard disk, you may want to consider partitioning it. This means splitting it into two or more parts that appear on the Desktop as separate disks. This has several uses. You can organise your work better, set a password on one disk and not another, and use it for emergencies. If you have a problem with your hard disk, it will often only affect one partition. This way, by keeping a System Folder on both partitions, you can boot from the second if one becomes corrupted.



Apple's HD SC Setup enables you to create two partions, but for us power hungry users *SetUpPartitions* can create more.

Creating partitions is simple with Apple's own *HD SC Setup* program that comes with your System disks. But that utility only enables you to split a disk into two parts. This is fine for most people including myself. My external one-gigabyte drive has a 650Mb partition, which I use to compile the CD-ROM. This leaves a separate 350Mb partition where I can keep any backups that I may need.

SetupPartitions enables you to have more partitions, so you can show off to your friends. Use it with caution, though. You'll also find that it seems to work only with drives formatted by Apple software.

ShortFinder 1.5

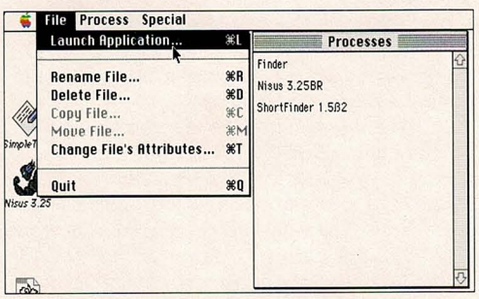
FINDER ALTERNATIVE

Shareware $30

Dwarf Research Inc brings us a replacement for the normal Finder. You know, the thing that makes the Mac easy to use. This program solves that ease-of-use 'problem' by getting rid of all those nasty icons.

You may be wondering why anyone would want to do this. Well, once *ShortFinder* is open, you can quit the normal Finder and still access most of the everyday tasks, such as opening applications and files, and using pull-down menus. This saves you RAM – but not a lot. Some shareware programs completely quit the Finder, saving you more RAM. This program will only save you around 60K by my tests.

If your Mac has a limited amount of memory and need just that little extra, then this is an option. Otherwise I wouldn't bother.



If your Mac has a limited amount of memory and your Finder is getting complacent, then you could introduce it to *ShortFinder* and threaten to replace it.

ALL PRICES INCLUDE VAT & DELIVERY – NO HIDDEN EXTRAS

MACFORMAT promotions

Mac bargains! Mac bargains! Gitchor Mac bargains... Once again MACFORMAT has searched high and low to bring you the best Mac products at the best prices...

Style victims

Yes, you too can be the proud wearer of one of these strictly limited edition MACFORMAT T-shirts. Styled in a fetching dark blue with an ultra-trendy Apple logo, they're the ideal fashion item. They're not only eye-catching, but you'll also impress your friends with your Mac knowledge.

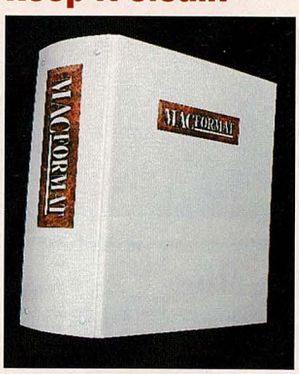
MACFORMAT T-Shirt
Price: £9.95
Order code: MACFTSL (large)
(Sorry, no other sizes currently available)

600Mb of programs!

The BMUG PD ROM contains over 600Mb of the best shareware software from all over the world, collected by the Berkeley Macintosh Users Group and put on one CD-ROM (1994 edition).

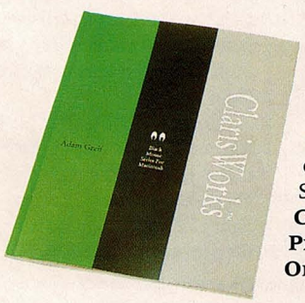
BMUG PD ROM CD
Price: £39.95
Order code: MFBMUGCD

Keep it clean!



Regular readers will now have two years worth of MACFORMATS on the shelf, so to keep them tidy and in absolutely top condition, why not store them in a specially designed MACFORMAT binder? Adorned with the MACFORMAT logo, the binder will keep your MACFORMAT issues in perfect nick.

Binder
Price: £6.50
Order code: MFBIND



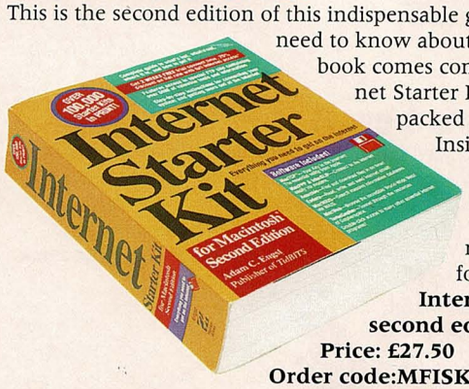
Need help with ClarisWorks?

If you need to know more than the manual tells you, then try this Black Mouse guide to *ClarisWorks*. Inside you'll find pages of practical advice and worked examples to help you get the most from your software. Special MACFORMAT offer – £2 off RRP.

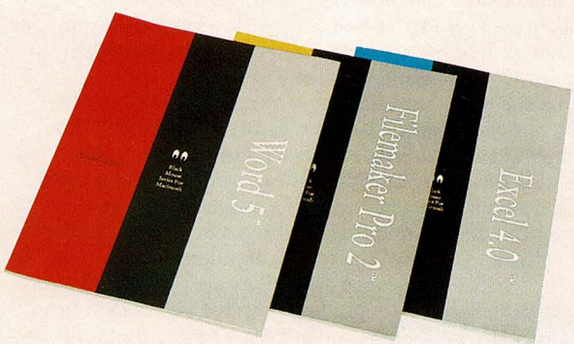
ClarisWorks book
Price: £7.95
Order code: MFCWKB

Internet Starter Kit

This is the second edition of this indispensable guide to everything you need to know about using the 'Net. The book comes complete with The Internet Starter Kit disk, which is packed full of useful software. Inside you'll find practical guidance on how to get the most from the 'Net without going bankrupt, and where to look for all the latest info.



Internet Starter Kit
second edition
Price: £27.50
Order code:MFISKIT



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In the same series of Black Mouse guides are books teaching you the best of Microsoft *Excel 4*, Claris *FileMaker Pro* and Microsoft *Word 5*. All are available at the same bargain price.

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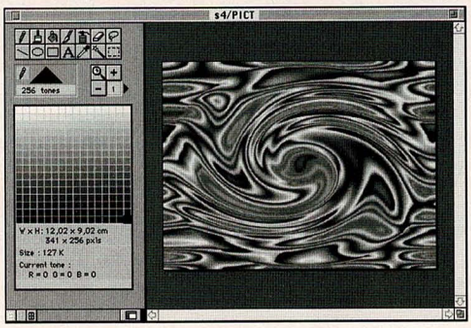
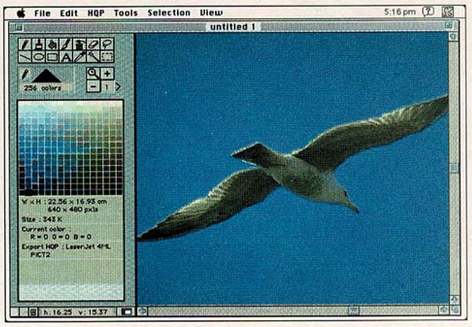
THE MACFORMAT STAR BUYS

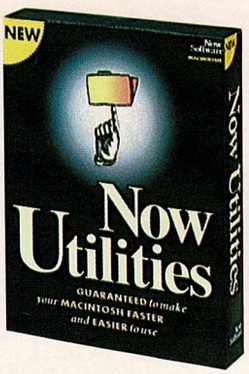
These are some of the best programs that MACFORMAT has ever seen. We are proud to be able to offer these special products direct to you from our magazine. Fill in the order form to get your copy of these essential programs and make your Mac more useful, more colourful, and just plain more fun.





Now Utilities version 5.0

(MACFORMAT 19: 90%)
Improve the way you use your Mac with this collection of nine superb utilities. With access to all recently used files and applications, as well as pop-up menus for your folders, you can quickly navigate around the Desktop. You can also save hard disk space with automatic file compression. See our review in MACFORMAT 19, try the demo on the CD, then buy it at this special low price.



Now Utilities v 5.0
Price: £60.99
Order code: MFNOW5

GrayStation 2

GrayStation is a kind of mini-*Photoshop* for greyscale images. *GrayStation* enables you to take an original image and edit it, altering brightness and contrast. Using the program's own unique High Quality Print system, you can create superlative images that print out better than ordinary scans – even on cheap printers.
Price: £39.95
Order code: MFGRAY

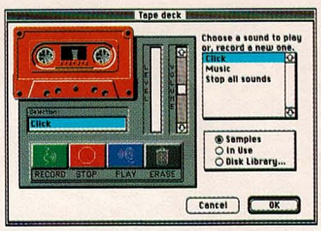
ColorStation 2

(MACFORMAT 13: 90%)
Other software producers could certainly learn a thing or two about ease of use and value for money from Le Pixel. It's hard to fault *ColorStation*. With its straightforward controls, this is an excellent choice for novice DTPers, covering all the graphics and printing bases in a convenient one-stop program.
Price: £49.95
Order code: MFCOLS

Exclusive HyperStudio offer

(MACFORMAT 14: 91%)
We were so impressed with *HyperStudio*, and its ability to enable any Mac user to create multimedia, that we got together with the UK distributors TAG Developments to offer MACFORMAT readers an exclusive deal on the software. We can offer you *HyperStudio* at just £117 – that's almost £50 less than the RRP.

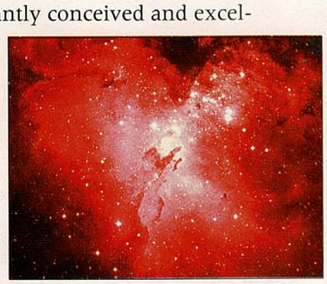
Note that this offer is strictly time-limited. Apply now before it resumes its normal £165 price.



HyperStudio
Price: £117
Order code: MFHYPER

Redshift

(MACFORMAT 19: 92%)
Redshift is the best astronomy program there is, and it will provide hours of fascination for anyone with even the slightest interest in star gazing. It's a brilliantly conceived and excellently presented CD, with some genuinely innovative features. It's all that a budding astronomer needs.



Price: £59.95
Order code: MFREDS

The ultimate value modem

We rate the US Robotics Mac & Fax as one of the best modems around, and now that USR has slashed its prices, we can bring it to you for an extraordinary £200. Only a few months ago, it was £469!

The Mac & Fax is a super-fast modem that can transfer data at up to 56,000 bits per second – 20 times as fast as a typical 2,400 modem. It does this by combining raw speed (14,400 baud) with the v32 compression system which shrinks the data before sending it. The modem works with any on-line service and comes with a Mac cable and all the software you need to access computers worldwide.

NOW ONLY £200!

The Mac & Fax also enables you to send and receive faxes direct from your Mac, by printing from your document as normal.

All in all then, it's pretty fab and you shouldn't be without it. Our price for this remarkable piece of kit? Only £200!

US Robotics Mac & Fax modem
Price: £200
Order code: MFMODEM

The essential shareware collection

Ten high density disks, packed with the very best shareware and freeware programs. No demos, just top-notch shareware software. Too many to list, but included are the latest versions of: *Disinfectant, SoundMaster, Apollo, Be-Hierarchic, FileTyper, Maelstrom, Graphic Converter*, and over 100 more. All programs work with System 7 and a colour monitor – some require them.
Shareware collection vols 1-10
Price: £19.95
Order code: MFSHARE1

The silliest software ever!

UnderWare is a screen-saver, and it can customise your desktop background. It's fun. In fact, it's downright silly. *UnderWare* animates the screen as you work! Tarzan swings in and collides with the window, a thief makes off with your 68000, babies crawl everywhere, a dragon burns holes in the desktop... It even runs *After Dark* modules in the same way. We gave *UnderWare* 93% in MACFORMAT 9. Imported direct from the US, where it costs $59.95, MACFORMAT brings you total silliness for just £34.95.

UnderWare
Price: £34.95
Order Code: MFUNDER

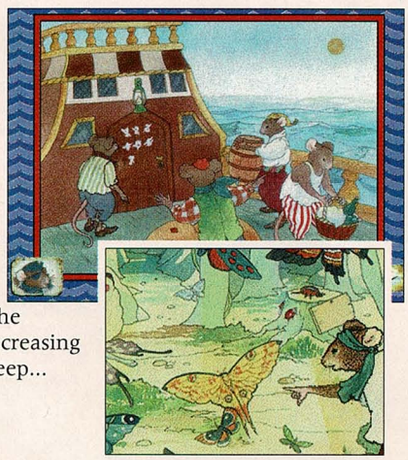
KPT Bryce SAVE over £35 on RRP

(MACFORMAT 20: 91%)
Produce incredible landscapes on your Mac with *KPT Bryce*. You have complete control over the shape and form of your terrain. Clouds obey your every mouse-click and a storm can be conjured up in seconds. Journey into space; visit unknown planets and their mysterious moons.

Once you've started to use *Bryce* you'll be unable to stop creating wonderful graphics. Reviewed in MACFORMAT 20, *KPT Bryce* scored 91%. It requires an LCII or better, 4Mb of free RAM, and System 7 or later.

KPT Bryce
Price: £115.00
Order code: MFKPT

Treasure Hunt



(Macformat 20: 90%)
A great multimedia title for kids. A group of pirates – who are also mice – set out in their ship to find treasure. They wander around a treasure island, with some gorgeously illustrated clues, until they find it. The pictures animate and there's music too. A unique feature is the bedtime story mode: the CD-ROM repeats itself at ever-decreasing volumes until your child falls asleep...

Treasure Hunt
Price: £28.99
Order code: MACHUNT

Boldly tour the USS Enterprise

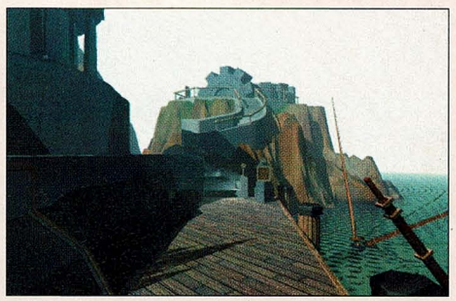
(Macformat 20: 92%)
A must for techies and Next Generation Trekkies everywhere. A beautiful QuickTime VR video-clip tour of the Enterprise, narrated by William T Riker (Jonathan Frakes). Investigate the bridge, crew's quarters, transporter room – or view the outside of the ship from space! Schematic diagrams and text give masses of information on all the fictional technology you encounter. An excellent and innovative CD-ROM that brims over with fresh ideas.

Star Trek Interactive Technical Manual
Price: £39.95
Order code: MFSTART

Myst

(MACFORMAT 9: 95%)
An adventure that has you exploring an island world with enthralling puzzles to solve and luscious visuals. This graphics extravaganza comes to you on CD-ROM.

Myst
Price: £39.95
Order code: MFMYST



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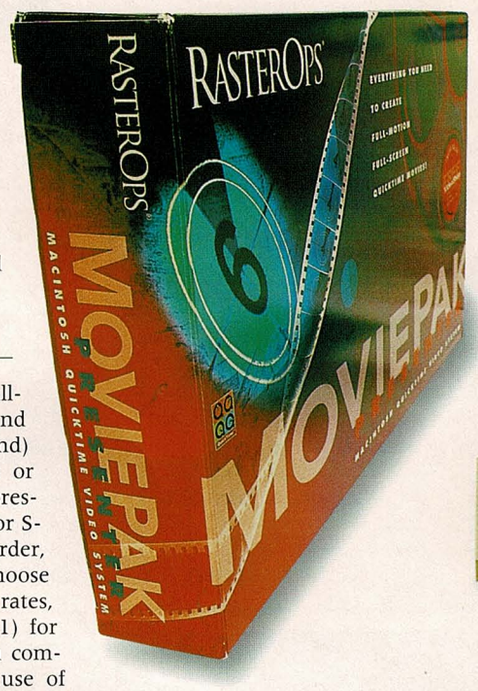
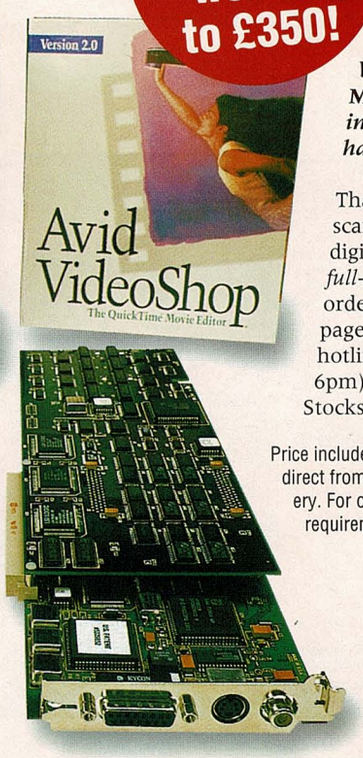
Exclusive half-price offer!

Everything you need to create full-motion, full-screen *QuickTime* movies – RasterOps' respected MoviePak Presenter bundle for half price!

Do you want to give your presentations real impact? Do you want to unleash your creativity and produce interactive multimedia, CD-ROMs or video? Or do you just fancy playing around a bit with movie clips on your Mac? Whatever your reason for thinking about desktop video, if you want to create full-screen, full-motion *QuickTime* movies, RasterOps' MoviePak Presenter is just right for you.

MoviePak Presenter is a complete, ready-to-install video record/edit/playback package. It includes all the hardware and software you need to digitise video images, compress them for most efficient use of your hard disk space, edit them and play them back. What's more, its modular design means that as your requirements grow, you can simply add upgrades that do precisely what you need, as and when you need them.





Includes VideoShop – worth up to £350!

What can it do?

MoviePak Presenter provides full-motion (30 fields) capture and full-screen (60 fields per second) playback from your hard disk or RAM using motion-JPEG compression. You can select Composite or S-Video input from your camcorder, VCR or other source and choose from a range of compression rates, from very low compression (2:1) for maximum quality, to very high compression (100:1) for optimum use of your hard disk space. Or if you prefer you can even display live video from your TV, VCR, videodisc or camcorder, anywhere on your screen, at up to 640 x 480 resolution.

The board supports full 24-bit photorealistic colour – a palette of 16.7 million colours – and works with Apple 13-inch or 14-inch colour monitors at 640 x 480 full-screen resolution, with the added benefit of hardware pan and zoom and 'extended Desktop'.

RasterOps' *MediaGrabber* software enables you to select compression settings, to re-size and rescale the video window, adjust the video colour, and add special effects. Avid *VideoShop* is included, giving you a complete video editing suite – for more details see MACFORMAT 21.

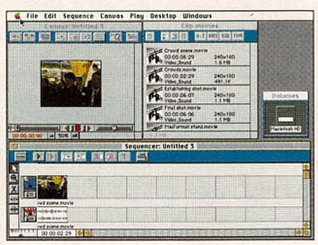
The card is easy to install in a single NuBus slot, and unlike some other cards is fully *QuickTime* compatible. Its RGB interlaced or non-interlaced output gives you the option of recording your movie out to video tape with an optional RasterOps Video Expander 2 encoder.

■ Requires: Mac II or later (although frame capture and playback may be limited by slow CPUs), one free 14-inch NuBus slot, at least 8Mb of RAM, 80Mb hard disk, System 7.0 or later and a 13 or 14-inch colour monitor. Please state if you require audio recording but don't have a sound card or an AV Mac. Most camcorders and VCRs include the necessary Composite or S-Video cables.

All this normally sells for around £1,995 plus delivery, but if you order direct from MACFORMAT you pay only £999, *including VAT and delivery* – that's *half price*!

That's right! For the price of a colour scanner or a couple of those awful digital cameras, you can have *real, full-screen, full-motion video* instead! To order yours, use the order form on page 111 or contact our mail order hotline on 01225 822511 (8.45am – 6pm) and quote order code MFROPS. Stocks are limited – order now!

Price includes delivery via normal post within Europe direct from RasterOps. Please allow 28 days for delivery. For orders outside Europe or special requirements, please telephone before ordering.



YOU GET ALL THIS...

The MoviePak Presenter bundle includes:

■ RasterOps 24STV card, offering 640 x 480 (NTSC) or 384 x 288 (PAL) resolution, hardware pan and zoom, S-Video and Composite input, RGB output to optional Video Expander.

■ RasterOps MoviePak daughtercard, offering motion-JPEG compression from 2:1 to 100:1, 30 fields per second (NTSC) or 25 fields per second (PAL) capture, 60 fields per second playback.

■ RasterOps software (*MediaGrabber* for capture and playback, drivers and extensions, plus plug-ins for *Premiere* and *VideoShop).*

■ Avid *VideoShop 2.0* (comprehensive video editing software – for more details see MACFORMAT 21).

■ Full after-sales support direct from RasterOps. Full details are included with the package when you receive it.

The MoviePak's modular design means you can expand the system later with:

■ RasterOps Video Expander 2 (for output to tape using Composite or S-Video).

■ RasterOps 24MxTV and 24XLTV cards (to add resolution and inputs/outputs).

■ RasterOps MoviePak2 daughtercard (for 60 fields per second capture).

■ RasterOps Expresso 35mm slide scanner.

■ Adobe *Premiere* editing software.

These are available through the usual retail channels. For enquiries, contact RasterOps direct on 01256 59283.

Out of the Sun

Ace pilot Martin Le Poidevin has an enemy on his tail and he can't shake him, but he's not going to give up without a dog-fight.

The son of a grizzled World War II ace once asked, 'Where do Japanese come from?' His father replied, 'Out of the sun, my boy, out of the sun.' To be an ace, you have to have grit, determination and flying ability oozing through the seams of your leather flak jacket.

At least, you do to play this game. *Out of the Sun* isn't one of those flight sims in which you simply whap up to full power, point the nose in the right direction using the joystick, and pull the trigger when the Hun looks big enough. Flying a real World War II aircraft requires finesse and the judicious use of the rudder pedals and the throttle, as well as the joystick – and that's what this game tries to simulate.

You need to keep two fingers permanently on the rudder control keys (the full stop [.] and comma [,] keys), juggling with them to keep the aircraft in balance. Basically, when you turn left you need a touch of left rudder to help the turn; when you turn right it's the right rudder – you can get an idea of which rudder pedal you need from an indicator in the cockpit. It's not an easy knack to learn: at first you'll find that making decent turns is difficult. Maintaining altitude is also difficult: if you don't cut back from full power (or use the trim controls to bring the nose down) you'll find yourself fighting a perpetual tendency to climb.

But once you get it right you'll find that you have far more control over the plane than in a normal simulation, which makes *Out of the Sun* a far more realistic flying experience than other modern sims like *Flying Nightmares*.

Now all you have to do is find an enemy to shoot at. Again, it's not easy. Closing speeds are realistically simulated, so you only see an aircraft very shortly before it's all over you. And then you have to hang on to it; again, this isn't easy when you're trying to keep your own plane in balance and flying level. If you fly in one of the battle scenarios then you are given some pointers about where you might find the enemy. Even so, it can take several goes before you actually manage to locate them – even if you're using the map.

The good news is that once you've learnt the basic controls of the game, there is a lot of serious dog-fighting to get mixed up in. There are three main arenas in which you can fly: D-Day, The Battle of Kursk, and The Battle of Midway. Each arena has a number of different scenarios, in which you can fly either Allied or Axis aircraft to find out which had the easiest time of it. *Out of the Sun* is well documented with a detailed brief for each mission and overviews of the historical importance of the battle, so you can get into the atmosphere.

The graphics are pretty smooth, although the explosions are a bit on the weedy side and all the towns in northern France look remarkably similar. Even so, the ground graphics behave very well.

You can get lots of practice dive-bombing, torpedoing or strafing targets like airfields, gun emplacements and so on. Your armoury, although not as explosive as some of the modern fighter sims, is still powerful enough to give you some fun.

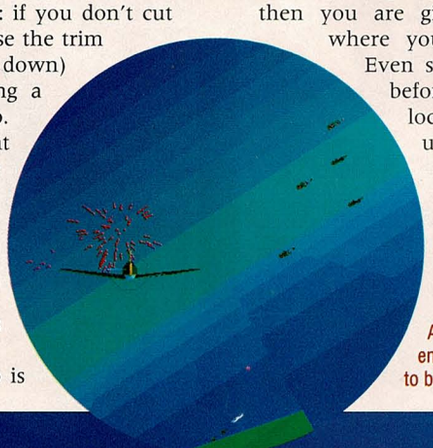
It has been suggested that *Out of the Sun* is one of those games that's pitched just a bit too high – but once you get into it there'll be no stopping you.

Martin Le Poidevin

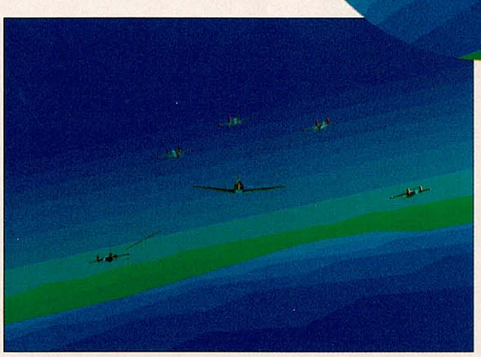
There are different scenarios you can fly in; from this newspaper you can select one by clicking on the appropriate headline, which brings up the relevant menu...

Check out the interactive demo of *Out of the Sun* on MACFORMAT'S cover CD-ROM

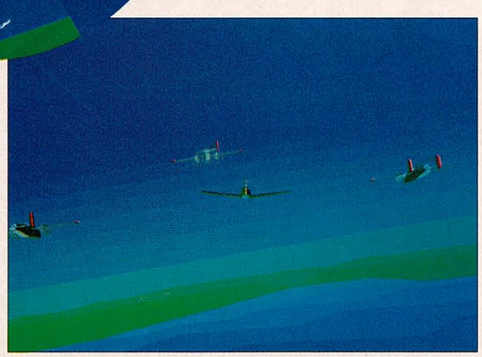
... You can then choose from the different types of aeroplane that took part in each battle. In D-day's case, the heroic Spitfire.



After I had shot down two planes the enemy made a fast retreat. I flew back to base to wait for further instructions.



Enemies on the horizon! I bank sharp-left and nearly spill my flask of coffee all over the cockpit, er, keyboard.



I pull myself together and fly in among them to cause some confusion. What a cool manoeuvre, if I do say so myself.

OUT OF THE SUN

Price: £29.99. Out: now.
Requires: LCII or higher, 5Mb of RAM (8Mb recommended), System 7.0 or later, 256-colour monitor and 18Mb of hard disk space.
For more details contact Domark on 0181 780 2222.

Graphics Smooth and fast, but rather polygonal.	80%
Sound Usual engine whine, with some nice explosions.	75%
Gameplay Takes some time to get into, but you'll enjoy it once you've got it sorted.	79%
MACFORMAT RATING	78%

The Journeyman Project

Someone's messing about with the fabric of time. Agent 5 – alias Andy Hutchinson – tries to keep history unchanged.

Here's the source of all the grief: a time travelling robot that's hell-bent on screwing up the past, the present, and the future. His name's Martin and he's a shelving salesman for MFI.

And here, Mrs Simpkins, is the partner that the computer has picked out for you. His name's Monty, he's a 25-year-old, self-employed time-travelling fiend and he has all his own teeth.

Meanwhile, back at base, you receive a briefing on your next time-jump. Don't forget your toothbrush.

Time is not a constant. Anyone who's stood in a supermarket queue will know that five minutes sometimes lasts for half an hour; just as anyone who's ever eaten one of those Marks and Spencer's Belgian chocolate and clotted cream desserts will know that five minutes sometimes lasts for just 30 seconds. As Einstein might have said, it's all relative. So if I turned on the six o'clock news and was told that someone had just invented time travel I would probably flick through the channels in search of some really interesting news.

The whole premise of *The Journeyman Project* is that time travel gets invented and then abused. Someone, somewhere, sometime is nipping back into the past, fiddling about with past events and consequently changing the future. More importantly, they're doing it for their own dastardly ends, in the hope that they can screw the world up even more than it is already. As if.

You're Agent 5, assigned to the Temporal Protectorate as part of the Journeyman Project. Your assignment is to chase the time-fiddlers back into the past and rectify the 'time-rips' that they're creating. You do this by utilising a cunning time travel machine that can transport you to any geographic position in the world at any time. Once you're safely in the past you've got to trundle about, work out how to change

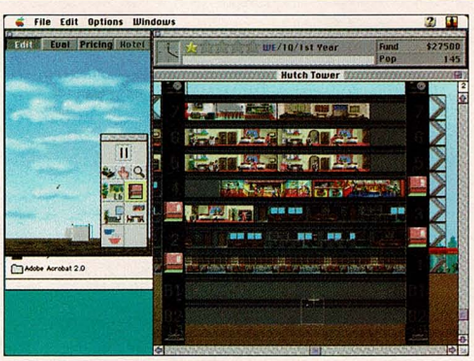
SimTower

Fast food takeaways, massage parlours, coffee machines and night-clubs. Andy Hutchinson designs and builds the carbuncle from hell...

Thanks to some inspired town 'planning' and a desire to be American in all ways, most British town centres are crammed to the ring road with tall, ugly buildings that possess all the charm of a chemical factory. Even Bath, MACFORMAT's home town, has been blighted by grim 1960s office blocks, which serve no purpose other than to confuse the hell out of tourists who have travelled hundreds of miles to see Georgian architecture. So quite why anyone would glorify such obscene structures with their own game is beyond me. Oh well.

SimTower is all about management. You're given a plot of land, a sum of money and a

The Chinese takeaway on the first floor isn't doing very good business. Maybe I should move the pet shop from next door.



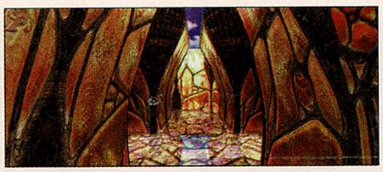
It's night time, the offices are empty, the apartments are quiet and the prowlers are in the car park.

team of eager bum-clefted builders and told to create a tower block. Then once you've built the place, you've got to attract businesses and residents to work and live in the building, and then turn your profits into improving the place to keep everyone happy.

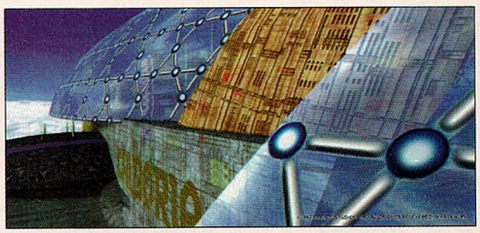
Practically every aspect of life in a tower block is simulated. You have control over minutiae such as the lifts and the cockroaches, as well as the big things such as rent and building improvements. The whole idea is to keep your SimTenants happy by constantly monitoring their reactions to life in the tower.

Each tenant has a similar agenda: to have some fun, and to work with as little stress as possible. You can make their lives stress-free

Turbo



Mazes like this aren't too tricky to find your way around in, thanks to the mapping function that's built in to your helmet.

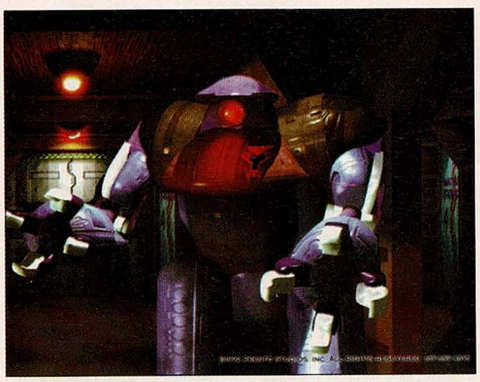


In the future we'll live in cities like this. Well, anything's preferable to spending your time in Stevenage.

things back, and then nip back to the 'present' in case the time-fiddlers strike again.

Essentially this is an adventure game. It is played from a first-person point of view and is controlled with the mouse. You interact with the game-world through your 'Biotech Interface' – basically a virtual reality eye-patch. This uses a series of 'Biochips' that can perform such functions as mapping your environment.

Finding your way around the game is a simple process. The programmers have included loads of on-line help, so you're familiarised with the environment very early on. Initially you're lead through the game by the hand, so when you're dropped into your first mission it comes as a bit of a surprise – and if you're anything like me, you'll die pretty rapidly.



The pressure of work started to tell and Brian decided to retire to the toilet for a bit of a think and a sit down.

If you've owned a Mac for more than a couple of years, you'll know this is actually an update of an older CD-ROM game. The previous version featured incredibly slow graphics and a linear story-line that made it virtually unplayable. So everyone was hoping for great things when Presto Studios decided to tackle those faults and re-release the game. Unfortunately, the gameplay is still slow. The game environment is fully rendered and gets pulled off the CD in chunks. The result is that while it looks great, you end up waiting for ages while your next few steps are loaded in. Getting from A to B is anything *but* a turbo process.

The gameplay element of the game is great – the puzzles are fairly logical and it's always interesting to see what problems the next time-zone holds. But the programmers haven't got around the technical difficulties of pulling rendered graphics off a CD-ROM at speed. They've also failed to include a bypass key, so you can't escape the monotonous cut-scenes. The end result is a game with a compelling story-line and a healthy combination of arcade and puzzle problem-solving, all wrapped up in an arthritically rendered environment. The ambitiousness of this project over-reaches the technology it utilises – obviously the word 'turbo' means 'ploddingly slow' in America. It may be an interactive CD, it may be photo-realistic... but it just isn't worth the effort. *Andy Hutchinson*

The Journeyman Project Turbo

Price: £37.95. Out: now.
Requires: lots of patience, any colour Mac, 8Mb of RAM, System 7.0 or later, CD-ROM drive and a 13-inch colour monitor capable of showing 256 colours.
For more details contact MacGold Direct on 01723 582100.

Graphics 90%
Brilliantly rendered graphics and plenty of well designed video.

Sound 83%
Groovy sound effects, but a few marks off for the manky guitar soundtrack.

Gameplay 60%
Despite all the tweaks, it's still too slow – sorry!

MACFORMAT RATING 68%

The hamburger stand isn't doing very well either. Maybe I should extend the lift to the fourth floor after all.

To cope with the demands of a busy tower block you'll have to program the lifts to shuttle people quickly and efficiently.

by making movement inside the building and to it simple and quick, by keeping the rents realistic, and by keeping the noise down. You can make their lives fun by adding good restaurants or fast food joints, by building a cinema, and by making sure that there are plenty of shops for them to spend their cash in. Basically you've got to bleed them dry, without them realising it.

The most endearing characteristic of this game is the way you can personalise it. Once you've attracted some visitors to your tower block you can click on them and see how they feel about the service that you're offering. Then, if you want, you can name your SimTenant. But given that there could be thousands of SimTenants using your building, you'll probably get bored and give up after the first hundred or so. Yet this naming function is actually an extremely useful tool, because it enables you to keep a close track of different varieties of SimTenant.

You have to possess a peculiar mind-set to enjoy these god-games. It's not as if there's any sort of end purpose to aim for. I mean, once you've gone through all the grief of building your enormous tower block and you've crowned it off with a top-floor cathedral, you simply carry on fiddling: tweaking the rents, modifying the elevators, and repositioning the restaurants. How interesting.

Given that Maxis (the creator of *SimCity 2000*) is the brains behind this game, you can pretty much take it as written that it's well coded, clearly designed and simple to use. But what you can't take as written is the scope of the game. There are only so many different things you can try, and once you've got a smoothly running building you'll probably feel more inclined to leave it alone than muck about with it. This game, like the buildings it simulates, is soulless and boring – even my younger brother (who is a quantity surveyor) wouldn't like it. *Andy Hutchinson*

SimTower

Price: £39.95. Out: now.
Requires: LCII or better ('040 recommended), 4Mb of RAM, System 7.0 or later, 256-colour monitor.
For more details contact MacGold Direct on 01723 582100.

Graphics 68%
Detailed, but hard to make out at times.

Sound 60%
It sounds a lot like a tower block. Only louder.

Gameplay 59%
One word sums it up: dull.

MACFORMAT RATING 63%

Dark Castle

It's dark, it's scary and you're up against a demonic knight. Richard Longhurst wants to know who the hell turned out the lights.

With a name like *Dark Castle*, you might expect this to be another one of those sword-and-sorcery role-playing games, a sort of *Dungeons and Dragons* meets *Wolfenstein*. But no, *Dark Castle* doesn't attempt anything as grand or ambitious as that. Yet in its own modest way, it's quite a fun little game.

The plot's as simple as they come – it's good guy versus bad guy (imaginatively named The Black Knight), with you boringly cast as the goodie. You're never given a reason for your foolhardy quest through the numerous rooms of a hostile castle, but you can bet your bottom dollar you're going to come across a damsel in distress at some point. So, with nothing better to do than to risk life and limb for no particular reason, you sally forth into the castle's entrance hall and pick one of the four doors.

You're not given a reason for your quest, but you can bet your bottom dollar there's a damsel in distress.

The game's divided into four sections, each of which is sub-divided into single-screen levels, very much along the lines of the ancient *Donkey Kong* platform game. On one level there's even an ugly bloke who stands at the top and hurls boulders at you – at least he's not rolling barrels; that would have been too similar. Your task is to run, jump, climb and throw rocks in an effort to get to the exit without being killed by the little creatures that scurry and fly around the level. As well as a pot pourri of dangerous birds, bats and skeletons (one touch and you're dead), you come across some really weird alien beings whose movements are accompanied by a range of sound effects that vary from hugely annoying to mildly amusing.

As with all good fantasy stories, if you want to defeat the bad guy, you have to collect some magical objects. Battle your way through the Shield levels and, not surprisingly, you collect an enchanted shield, while a slog through the Fireball levels provides you with a semi-automatic machine gun and a packet of lard. Or something like that. The Trouble levels don't provide you with anything useful: you just end up there when you've fallen through a pit or a trap door elsewhere in the dungeon. But when you get out with the magic objects, you're ready for the Black Knight levels.

And that's just about all there is to it – lots of running, lots of jumping, lots of throwing rocks and shooting fireballs. Ah yes, and there's lots of getting annoyed with the unnecessarily complicated control system. You see, for some reason you have to use the keyboard *and* the mouse to control the hero. You use the keyboard to make him run, jump, crouch and perform actions (like picking up the shield and tipping a vat of water on a fire-breathing dragon), while you use the mouse to aim and throw rocks. It won't be a huge problem for the dextrous gameplayers out there, but keyboard klutzes might find it rather hard going at first.

Dark Castle is an intriguing game – at first it seems like there's nothing to it and you're all too keen to dismiss it as another mildly diverting but ultimately unsatisfying platform puzzle game. But the more you play, the more the humour and style of the game rub off on you. It's not going to have you rolling in the aisles, but the miniature animated slapstick is quite a laugh. A fun game, but not one that's going to set the world on fire. *Richard Longhurst*

Er, this looks vaguely familiar. Replace the meat-head at the top of the screen with an enormous chest-pounding gorilla and you could almost be playing *Donkey Kong*.

It's just like that bit in *Fantasia* when Mickey Mouse dresses up as the Sorcerer's Apprentice and has to tackle a dozen dancing brooms. Lucky you've got some rocks with you.

Pick a door, any door you like – this could be the beginning of a great adventure, but then again, it might just be the beginning of another computer game.

The guy in the red (we think he's a baddie) sits on his high chair and hurls his empty glasses at you. Not sure what he's drinking – it's probably the blood of a thousand virgins.

Stumble into the sadist's chamber at your peril – three skeletons are being whipped in the bottom right-hand corner and if you're not careful, you'll be about to join them.

DARK CASTLE

Price: $44 incl P&P. Out: now.
Requires: any colour Mac, 5Mb of RAM and System 6.0.8 or later.
For more details contact Delta Tao Software on 00 1 408 730 9336 or e-Mail **deltavee@alo.com**.

Graphics 63%
Small, unassuming and unimpressive, but some neat animated touches.

Sound 68%
At once irritating and amusing, but there's not much to it.

Gameplay 75%
A mixture of puzzling and platform fun, but not long lasting.

MACFORMAT RATING 73%

MacGOLD Direct

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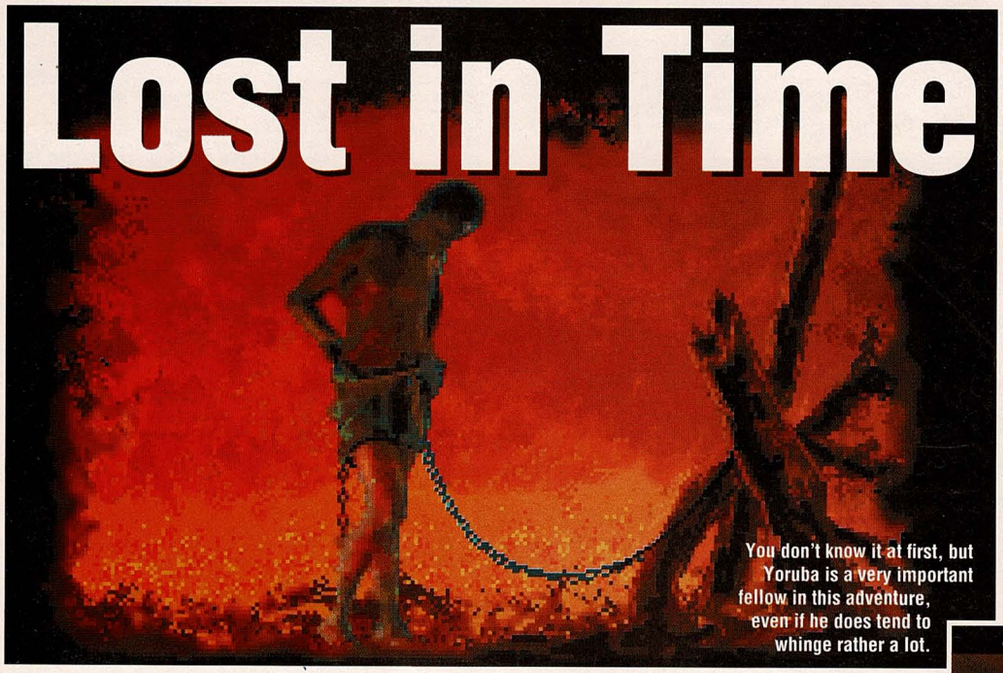
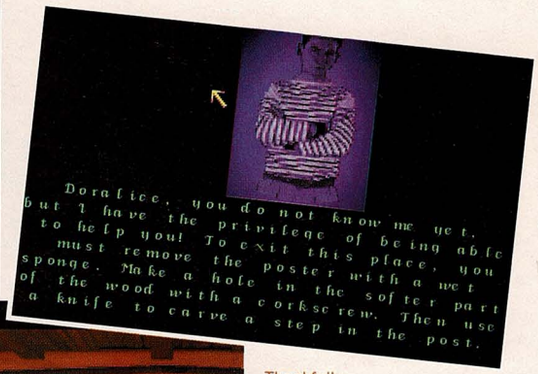
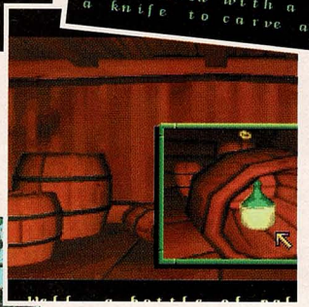
Lost in Time



You don't know it at first, but Yoruba is a very important fellow in this adventure, even if he does tend to whinge rather a lot.

A mademoiselle is trapped in the past! Meanwhile Ed Ricketts is trapped in an illogical world of bizarre puzzles...


Doralice, you do not know me yet, but I have the privilege of being able to help you! To exit this place, you must remove the poster with a wet sponge. Make a hole in the softer part of the wood with a corkscrew. Then use a knife to carve a step in the post.



Thankfully you're given three 'jokers' which will solve any really tough puzzle for you.

This sort of thing happens all the time: searching an empty barrel, you find a pristine bottle of palm oil. Yeah, right, that makes sense.

Voici, l'aventure Francais. Le stylish graphics, le freaky gameplay. (Le hopeless Franglais.) *Lost in Time* is a graphic adventure starring one Doralice Prunelier. If you don't remember our Dora, she was also the star of Coktel Vision's somewhat dodgy adventure *Fascination*. In that, she was a woman prone to ditching all her clothes for no particular reason.

Although she seems to have overcome that slight problem, worse is in store. Dora wakes up one day to find herself trapped aboard a boat. A very nice boat, as it happens, except that it contains a mad slave and there's no way off... plus it appears to be the year 1840.

A tad confused, Dora eventually escapes from the boat, ending up on an island back in 1992, where things get even stranger. Suffice to say, there's a great deal of exploring and experimentation to be done before you find out what the hell's going on. And we're not saying any more because it would give everything away.

There's no denying that a great deal of effort has been put into *Lost in Time's* appearance. The bulk of the graphics are digitised video sequences, which are rather scratchy and grainy, with sections of impressive 3D rendered graphics in between. Unfortunately this high-tech stuff is mixed with the decidedly low-tech graphics of your inventory, which have a much more 'dashed off' look. The words 'spoiling', 'barrel' and 'ha'peth of tar' spring to mind.

The real problem with *Lost in Time* is the amount of illogical, often bizarre, solutions to the puzzles it contains. With most adventure games, you can have a reasonable stab at which objects you need to use in order to solve a particular obstacle (if only because you haven't used them yet). With *Lost in Time*, you often find yourself painfully using every object you've collected with everything on screen, which is (a) tedious, (b) tedious and (c) tedious. It's also no way to write a decent adventure. For example, at one point you need to make a club (don't ask why). At your disposal you have a garden hose and a razor. So what do you do? Cut the hose, of course, which somehow turns itself into a club. Obvious. You often see football hooligans running around with sawn-off hoses, don't you?

That's right, just slip the portrait into the hole. What else could you possibly do with a portrait, after all?

Doralice is a resourceful lass. To her, a slingback isn't just a fashion accessory, it's a virtual pumping station.

And here it is, that ridiculous hose example in full. Note the witty comment from Doralice. (Well, we think it's supposed to be witty. Maybe it loses something in the translation.)

This would be forgivable if you could ponder one illogical puzzle while tackling another, but the game isn't built like that – it's irredeemably linear. Unless you solve the current task, you're stuck, wandering around the few locations available to you. You can't even try unlikely actions on likely objects, because there aren't any discrete commands as such. All that happens is that you click on an object and the game does whatever it reckons is best for you. Okay, this makes things a bit easier, especially for novices, but it's also highly restrictive – not to say frustrating. Overall, you never feel as if you're in control of your actions; it's like you're being led by the hand all the time.

It's a shame, because like most French games *Lost in Time* has a rich, intriguing plot. But unless you're the sort of person who spends four days completing a cryptic crossword, you really won't be bothered to discover it. Not terrible, but not terribly compulsive either. *Ed Ricketts*

LOST IN TIME

Price: £34.99. Out: now.
Requires: 25MHz Mac or better, 3Mb of free RAM, System 7.1.
For more details contact Coktel Vision on 01734 303171.

Graphics 71%
Strange mix of rendered 3D, video sequences and plain old sprite graphics.

Sound 64%
Elevator music (which you can turn off), plus some BBC radio-style effects.

Gameplay 59%
Lots of it, but it's about as logical as Reeves & Mortimer in the long run.

MACFORMAT RATING 61%

Meridian

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Gamebusters

Don't lose your way in *Myst* – here's the last leg of our three-part walk-through. Plus, how to make *Wolfenstein* even more of a mad bullet-fest.

We're getting very near the end... Here's the last part of MACFORMAT reader Gareth Maddocks' tour through the worlds of *Myst*. Gareth won a copy of *Rebel Assault* for getting his solution published. We'll give a copy of something equally cool to anyone who busts games above and beyond the call of Gamebuster duty.

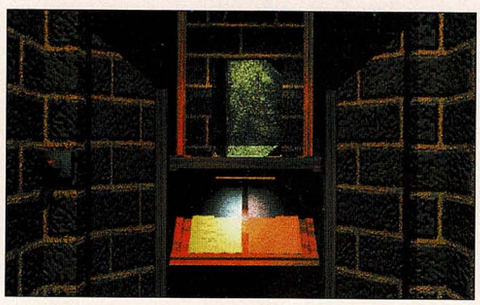
Myst

Press the pictures of the snake, leaf and beetle on the forest pillars; the model ship will rise out of the water. Now head to the dock. Go into the cabin of the now floating ship and you'll find the book leading to the Stoneship Age.

Looking around, you'll see a crow's-nest with an umbrella above it. There are three buttons in it. The left one empties the water out of the cabin of the ship, the middle one empties the tunnels, and the right one empties the lighthouse. Press the right-hand one first.

Inside the lighthouse you'll find some stairs leading to a chest. Turn the handle on the side to drain it and then turn it again to shut the hole. Use the crow's-nest controls to flood the room by pressing the middle button – this also empties the tunnels. Go back to the lighthouse and you'll find the chest floating on the top of the water. Click on the key; when the chest opens, take the key out of that and use it to undo the padlock at the top of the ladder.

In the room at the top you'll find a generator and a battery pack. Turn the handle until the battery is full and run down to the brothers' rooms. These are at the bottom of the two dark tunnels. In each brother's room is a page – you'll need the one of whichever colour you've been collecting. Halfway down one of the tunnels is a passage, its entrance marked in red. This leads to a giant compass. Press the button at 135 degrees clockwise from the top, and the underwater lights turn on.

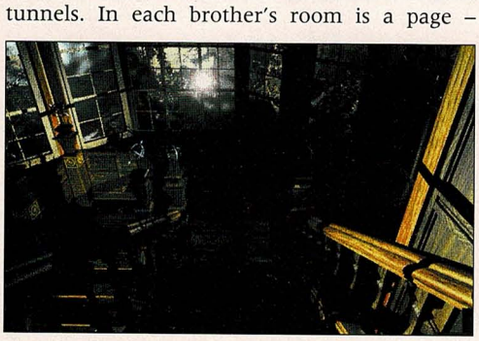


Your final choice – will you go for one of the pages or the whole book? The wrong move means an eternity of doom.

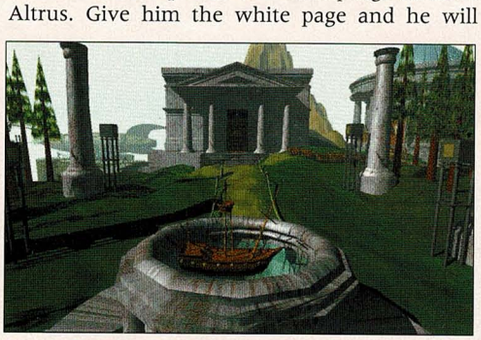
Go back outside and empty the cabin. Turn the handle on the generator in the lighthouse again, and head into the cabin of the ship. Click on the wooden table; the book leading back to Myst appears.

After placing the fifth page into the appropriate book, look at the book on the far right of the middle shelf. Copy out pattern 158. Make sure all the marker switches are turned on and then turn the marker switch by the dock off again. It should open to reveal a white page. Take this, go back to the library and enter code 158 into the fireplace. It will spin around.

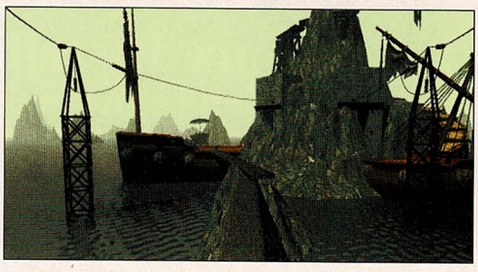
Instead of collecting the last red/blue page as you were asked to do, touch the green book. You will be warped to the Dunny Age to meet Altrus. Give him the white page and he will explain the whole plot to you before vanishing. When Altrus returns, go back to Myst Island by touching the book he is writing in, and you will be able to see that he has burned the blue and red books. The lands of Myst are liberated and your task is over – for now...



Your route back to Myst Island takes you through a spectacular underwater passage before you find the book.



To reach the Stoneship Age, you need to raise the boat in the dock – the model rising up here is a sign that you've done it.



Tunnels, a giant compass and an umbrella hold the keys to finding the pages in the Stoneship Age.

Myst in minutes

Phew! That's finally it. But if you want to see the end without doing the work, Sonic from Chorley tells you how... Run the *Myst* program and start from the dock. Switch on all the marker switches. One is by the clock tower, which you can reach by setting the clock to 2:40 – with the two wheels and the red button, as I'm sure you'll remember. Return to the dock and turn off the marker switch there – a special yellow page is revealed. Take this to the library, copy out code 158 from the code book and enter it in to the plate on the fireplace. You can now touch the green book to reach the Dunny Age and Altrus in moments! Sonic wins a fiver for his shamelessness, but the effort of taking the long route brings its own graphically beautiful rewards.

Wolfenstein 3D

Mindless violence it may be, but this World War II action blaster gets the pulse racing. Tim Askew of Orwell in Cambridgeshire offers some downright filthy cheats for anyone who's determined to shoot their way through this and ask questions later.

Type **burger** to get all the weapons and as much ammunition as you can carry.

Type **wowzers** to increase your bullet capacity to 999. All the other ammo stores are stocked up to 99.

Type **xuscnielppa** to get your energy and ammo back up to full.

Type **ledoux** if you want to be completely invulnerable, never run out of ammo and seek no challenge whatsoever. When you get bored with mowing baddies down for the heck of it, type **iddqd** to go back to normal.

Type **seger** to get all the keys for the level you're on. Tim says that this gets really useful from level 4-1 of *Second Encounter* onwards.

To find those pesky secret doors, type **appleiigs**. When you look at the map press the **[/]** (slash) key; you'll see our hero's head indicating the spots you should look at.

Tim wins five pounds for his part in the war effort. If you've got some tips or cheats to share, send 'em in and you could win some dosh – or a game for a complete solution. The address is Gamebusters, MACFORMAT, 30 Monmouth Street, Bath, BA1 2BW. *Richard Hill.*

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Please add VAT on all items. Small consumables and software items under the value of £59 please add £3.50 P&P. Other items except lasers, next day courier service £10 per box. Offshore and Highlands, please call for a quotation. In addition we offer the following express services: Saturday Delivery normal rate plus £15 per box, Morning, next day normal rate plus £10 per box. E & OE Prices subject to change without prior notice. All trademarks acknowledged.

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HARDWARE FOR SALE

■ LaserWriter 320, brand new, boxed complete with toner and accessories – £495 ono. Tel: 01602 819225. Also Apple 8/24 video card, unused – £190 ono.

■ LAPIS L.TV Interface card, enables LC display onto standard television or from VCR, boxed with manuals and install disks – £90. Tel: 01602 819225.

■ Wacom A5 Graphics tablet with *Painter* Software. Boxed as new – £210 ono. Tel: 01602 819225.

■ Radius GSM1950 20-inch colour monitor and GS/CM video card (not PowerMac compatible) attached to Mac IIcx 8/40, all VGC – £850. Tel: Cambridgeshire 01780 740104.

■ Mac Quadra 610, 8/160, built-in ethernet VRAM upgrade, system unit only, excellent condition, boxed – £750. Call Rob on 0181 252 4864 (evenings only).

■ Mac LCII 12/160, 14-inch hi-res monitor, CD300E+, Apple Design power speakers, Logitech Scanman scanner, System 7.1, excellent condition – £1,110 ono. Tel: 01425 476975 (evenings).

■ Classic 2/40, complete with manuals, many accompanying items plus ImageWriter II printer, all boxed and as new. For further details contact 01843 831771.

■ Mac Colour Classic 4/40, System 7.1, keyboard, mouse, manuals, home use only, immaculate condition, still boxed, ideal for student – £600 ono. Contact Riad on 01273 686713 (Brighton).

■ Performa 400 4/80, 14-inch colour monitor, *ClarisWorks*, complete and ready to use, 14 months old – £500. Contact Chris on 01296 81379 (evenings).

■ Apple Mac Classic II 4/40, System 7.0.1, original manuals and disks, microphone, standard keyboard, mouse, *Microsoft Works 2.0* and *3.0*, shareware, MACFORMAT disks and CD, home use. Contact Andrew Dow on 01202 546983.

■ Mac LCIII 4/80, Apple 14-inch colour monitor, keyboard, mouse II, System 7.1, plus StyleWriter II, only a few months old – £1,095. Genuine reason for sale. Contact Trevor on 0161 225 5555 ext. 161.

■ E120 21-inch monochrome monitor, excellent condition – £250. Contact Jeremy on 01252 844144 (work hours).

■ Fujitsu monochrome scanner, all cables and software – £250. Tel: 0181 868 9095.

■ Apple Performa colour monitor – £100 ono. Tel: 01704 563353.

■ PowerBook 540c 8/340, new, under warranty, StyleWriter II, mouse, *ClarisWorks 2, RAMDoubler 1.5, MacTools 3.0, Powerprint, StuffIt Deluxe, UnderWare, SimCity 2000, SimEarth* and shareware, retails at £4,600+, selling for £4,200. Contact J H Y Chan on 01223 332500, Trinity Hall, Cambridge, CB2 1TJ.

■ Summagraphics bit pad + 12-inch x 12-inch stylus plotter software, manuals as new – £250. Tel: 0181 444 1927.

■ Performa 200 (Classic II), 4/40, immaculate, one year old, System 7.5, unregistered *ClarisWorks 2.1*, boxed with manuals – £400, no offers. Contact Karl on 0171 284 0278.

■ Linotronic 10, RIP and processor for 12-inch bromide/film output, 1,270 DPI Mac interface, can be seen working – £4,700. Contact Paul on 01259 725005 (central Scotland).

■ Classic II 4/80 with keyboard, mouse and carry case – £500. StyleWriter – £100. *ClarisWorks V2* – £100. All complete with manuals. Home use only. Tel: 01483 576385 (Guildford).

■ HP Deskwriter 320 with sheet feeder, unused with warranty – £200. Tel: 01903 215118 (Sussex).

■ Quadra 610 12/160 14-inch hi-res colour monitor, keyboard, mouse, mint condition – £750. HP560c printer as new – £325 boxed, manuals, warranty. Tel: 01442 63689.

■ Two 1Mb 30-pin SIMMs from LC – £25 each ono. Contact Rory on 01782 750700 (day) or 01782 750080 (evening) Crewe.

■ LCII 4/40 with 14-inch high resolution monitor, light home use only, plus StyleWriter II, still printing from original ink cartridge! – £870 ono. Tel: 01772 617199 (evenings) Preston.

■ Apple 14-inch Trinitron high quality monitor, boxed with manuals, perfect condition, still under guarantee, upgrade forces sale – £200. Tel: 0191 2736687.

■ LCII 4/40, Apple Trinitron 14-inch colour monitor, keyboard, mouse, System 7.1, manuals, StyleWriter I, good condition – £650. Tel: 0181 959 3177 (N. London).

■ Performa 600 CD 8/80 CPU, all original disks and manuals included. Very good condition – £500 ono. Contact Martyn on 0181 876 2519.

■ PowerBook 160, 10Mb of RAM, 80Mb HD, as new, hardly used, plus 14-inch colour monitor working with PowerBook – £950 ono. Might swap for Radius colour Pivot. Tel: 01604 700121 (evenings).

■ 1 x 10Mb Kingston SIMM for PB180c/165c – £150. Apple CD300 double-speed, including caddy, boxed as new – £150. Sale due to upgrade. Contact David on 01745 852605 (Clywd).

■ PowerBook 165, as new, complete with adaptor and *ClarisWorks* software – £750. Tel: 01923 672254.

■ Fax/modem, unused, teleport bronze, boxed – £60. Tel: 01206 241921 (answer machine).

■ Mac SE 2.5/40, 1.4Mb internal drive – £200. Tel: 01483 728436 (after 6pm).

■ Apple 8-bit video card for 13/14-inch monitor – £100. Tel: 01444 245392.

■ Apple 8.24GC display card, 4Mb VRAM – £350. Tel: 01444 245392.

■ Modem V32 9,600 bps, V42 error correction MNP class 5, data compression plus high speed cable and software – £200. Tel: 01444 245392.

■ Mac Classic 4/40, 68030 accelerator, A4 mono screen – £1,200 ono. Tel: 0121 554 6947.

■ Two new 1Mb 30-pin SIMMs. Suitable for LC, LCII, etc – £45 for both. Contact Pat on 01475 637699.

■ *ClarisWorks 1*, boxed with manuals, as new – £55. 300 Apple CD-ROM drive, twin speed, as new, still under warranty – £190. Philips monitor – £200. Tel: 0843 292276.

SOFTWARE FOR SALE

■ *Mobile Calc* for Newton, shrink wrapped, unwanted present – £40. Contact Howard on 0181 640 5233 or e-Mail **hl@is.city.ac.uk** for further information.

■ *MacWrite II version 1.1*, unregistered, offers? (Free if collected.) Tel: 0181 560 8609 (after 6pm) London.

■ *QuarkXPress V.3.2* – £350. Adobe *PhotoShop V.2.5.1* – £310. *Microsoft Office V.3* – £185. *SoftPC with Windows* – £130. All as new, any offers considered. Tel: 01602 819225.

■ *Myst*, CD version, as new – £25. Also *Myst Official Strategy Guide* – £12 or £35 for both. Contact Chris on 01372 278807 (after 7pm) Epsom.

■ System 7 – £15. *ATM* – £25. *SuperATM* with *Typer Reunion* – £48. *After Dark II* –

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USER GROUPS

Need hands-on help with a Mac problem? Want to swap shareware or freeware, or just meet other Mac enthusiasts? Try a user group near you...

■ Artists Bulletin Board now on-line 0181 778 6547. We specialise in obscure software and magazines. It's free. Modem speeds 2400-9600, 24 hrs. (MF24)

■ Blackburn Mac UG. Tel: Roger Moreton on 01254 670043. (MF26)

■ Calling all Mac user groups, programmers and Mac users. MacShare UK is now in the planning stages to start the UK's first support group for Mac user groups and shareware programmers. But we need your input. If you can think of any services your user group could need or would like help with setting up, or if you're a programmer who's having problems with distribution etc, then write to: MacShare UK, Lane End, Oak Tree Lane, Tavistock, Devon PL19 9DA.(MF26)

■ Glasgow Mac UG. Tel: Stephen Broadfoot on 041 339 6646. (MF23)

■ Liverpool Apple UG. Bulletin Board: 051 949 0307. (MF24)

■ Mac user group (nationwide) All levels. Non-commercial. Newsletter, shareware, etc. Send large SAE for sample newsletter to Ref MF, 9 Burrill Drive, Wiggington, York YO3 3ST. (MF23)

■ Mac user group, covers all aspects of Mac scene, free membership and monthly newsletter. For details write to Sonic, 11 Charnock House, Lancaster Court, Chorley, Lancs, PR7 1PB. Or by e-mail on Cosmos BBS 'Dave Andrews' (I'm the programming Forum Moderator) or on Portland BBS 'Dave L Andrews', or on the Internet: **sonic@cosmos-uk.org** Don't forget you pay nothing! (MF25)

■ MacBel UG vzw: Belgium's ONLY non-profit Mac user group. We provide bi-monthly magazines, internet-access, local BBS-support (TeleFinder 32-3-4543-069) and meetings. Call Bart at 32-3-640-4031 or e-Mail **liemb@innet.be** (MF26).

■ MidApple – Apple 2 and Mac user group meets monthly in West Midlands. Please send SAE to MidApple, 24 High Street, Wall Heath, Kingswinford, DY6 0HB for details.(MF 23)

■ New Mac user group just starting up. We urgently need Mac-related literature, shareware, PD and new members. Free membership to MACFORMAT readers. Can you donate a BBS program so we can go on-line? Members asked for small monthly contribution to cover cost of BBS lines and newsletters (we're non-profit-making). Interested? Write to The Network, 11 Charnock House, Lancaster Court, Chorley, Lancs PR7 1PB. Or tel/fax Dave on 01257 265025 (BBS numbers will be posted to all applicants once software is obtained). (MF24)

■ North West Macintosh and Apple user group – Cheshire area, North. Contact Mr George Evans on 01270 583714. (MF26)

■ Nottingham Computer Club. Please send a SAE to Sherwood Community Centre, Mansfield Road, Nottingham.

■ Poole Mac user group. Tel: Bob Lister on 01202 684441.(MF26)

■ SE Essex Mac user group. Contact Michael Foy on 01702 468062.(MF26)

■ Southern Mac user group, Salisbury and district. Contact Roger Ford on 01722 780102. (MF26)

■ Southwest Mac user group, Bristol. Tel: John Elver on 01272 693119. (MF26)

■ Sussex user group, Hastings, East Sussex. Contact Garry Nevin on 01424 714110. (MF26)

■ Telematic & Multimedia user group. We are currently looking for new members, please contact Benjamin Stanley on 0121 420 1482. (MF24)

■ The Computer Textile Design Group. The essential link between computer and textile designer. Contact Dee Chester, 12 Le Brun Road, Eastbourne BN21 2HZ. Tel: 01323 725781.(MF24)

■ The Finnish Mac user group (fiMUG) runs AppleGarden, a FirstClass BBS, at tel. +358 0 694 Membership FIM150 pa. Ca.800 members (Sep/94). Send a SAE to fiMUG, PL 122, FIN-00181 Helsinki, Finland for more information (MF26)

■ West Midlands user group. Tel: Danny Torbica on 01902 336172.(MF22)

■ Sheffield Mac user group starting, seeks help, advice, shareware, etc. Send SAE to Ian Perrin, 35 Dunkeld Road, Sheffield, S11 9HN. (MF28)

Your user group will be listed here free of charge for six issues, then deleted in order to help weed out defunct groups. The number at the end of each entry is the last issue in which that entry will be included. If you want your group's entry renewed (or corrected), just send in the coupon on page 122 (opposite) a couple of issues in advance. If you run a group that isn't listed here, please send us your details!

Please note: this list is provided as a free service for amateur, non-profit-making Mac user groups. MACFORMAT does not endorse or recommend any particular group and cannot be held responsible for any losses or problems that you might suffer as a result of contacting groups advertised here.

£10. *Norton Utilities 2.0* – £43. Adobe *Streamline 2.2* – £45. Contact Michael on 01347 810685 (York).

■ *Specular Collage* – £130. *Microsoft Flight Simulator* – £25. Gravis mousestick II – £45. Hewlett Packard PaintJet colour printer – £250. Alan on 0181 941 3196 or e-Mail **alan@hecate.demon. co.uk**

■ *Grolier encyclopedia* CD – £35. *Snoopy Yearn 2 Learn CD* – £10. *Aesopholis Aesop's Fables* CD – £10. Contact Anne on 0181 224 6975.

■ *Word Perfect 3.0*, opened but unused, disks, manual, registration cards – £100 ono. Call Kate on 01724 849503 (eves).

■ *Canvas 3.5* Technical drawing program, unwanted prize – £200 or offer. Tel: 01752 567704 (after 6pm).

■ *Ofoto* scanning software – £10. *Aldus PageMaker V5* – £200. *WriteNow V3*, 2 copies – £15 each. *Pyro* screen saver – £10. Swap *PageMaker* for 15-inch colour monitor. Tel: 01684 857375.

■ *ClarisDraw*, brand new, unopened, runs on Plus or PowerMac, RRP £320 incl. VAT. Bargain at £220. *Digital Darkroom greyscale editor V1.1* – £15. Contact Simon on 0171 289 7364.

■ *Microsoft Musical Instruments* CD-ROM, as new – £25. Tel: 01222 495992.

■ *Think C 6.0* and *Think Reference*, both for £165. *Aldus Digital Darkroom* only £60. *Aldus IntelliDraw* only £60. *Life and Death*, *SimEarth* and *PGA Tour Golf* – £15 each. May swap some for *CompileIt* and *WindowScript* or *HyperCard 2.2*. Interested? Contact George on 015396 24397.

■ *HyperStudio 2.0* as voted No.2 education product in Mac User – £50. Contact Andy on 0171 351 4333, Ext 303. (SW London).

■ *Photoshop* filters – *KPT V 2* and *Andromeda series 1 and series 2* (3D) – £75. All boxed, some incompatible with PPC. Contact John on Leeds 01532 390880.

■ *Prince of Persia 2* and *Red Baron*, both run on 4Mb Macs – £20 each or £35 for both. Contact John on 01357 21445 (after 7pm).

■ *Excel 4.0* – £80. *ClarisWorks* – £60. *Aldus Personal Press* – £25. Tel: 01272 633791.

■ Yamaha Hello Music package, boxed as new, including *Cubase Lite* Software – £175 ono. Contact Ripley on 01430 441759. Also Yamaha PSR300 MIDI keyboard – £130.

■ *100 Great TrueType fonts* from Monotype – £50 ono. Also selling *Civilization* – £20 only. Both in mint condition. Tel: 0171 537 7504.

■ *World Atlas version 2.1* manual – £13. *Mavis Beacon Typing II* manual – £12. *Math Blaster Mystery* manual – £10. *Kid Pix* manual – £10. *AutoDoubler* wanted. Tel: 01926 55591.

■ Aldus *PageMaker V 3.5* and *V 4.2* – £75 each. Adobe *Type manager 040* – £25. Complete with manuals and original disks for registration. Tel: 01942 273026.

■ *Aldus Persuasion V 3.0*, unregistered, unopened, brand new and all included for just £275. Contact Jim on 0181 348 0830 after 4.30pm (weekdays). You must not miss this.

■ *Crystal Caliburn*, *SER1005* solid state pinball – £25. *Battle Chess* (3D animated pieces) – £12. Both boxed and immaculate. Contact Clive on 01225 314782.

■ *Claris Power To Go* – £20. *Cricket presents 2.1* – £35. Both unregistered and wrapped. *PC Exchange* – £10. Contact Jeremy on 0707 261 210.

■ *Indy and the Fate of Atlantis*, as new with manuals etc – £20. Tel: 0223 277 281 (evenings only).

■ Aldus *PageMaker 4.2*, sealed and unused, unwanted gift – £250. Contact Simon on 0865 57774 (after 6pm).

■ Aldus *PageMaker 4.2*, sealed and unused, unwanted gift – £250. Contact Simon on 0865 57774 (after 6pm).

■ CD-ROM's *Bookshelf*, *Art Gallery*, *Cinemania*, *Encarta* and *Musical Instruments* for sale. Unwanted prize – make me an offer. Contact Nick on 01992 550471.

■ *SoftWindows*, brand new, shrink wrapped and unregistered – £150. Contact Paul on 01752 341992.

■ MonoType 57 fonts pack – £12, unopened. Tel: 01533 702675.

■ CD-ROM games: *Journeyman* – £25, *Iron Helix* – £25, *Halliwell's film guide* – £15, and *New Grolier Encyclopedia* – £40. Swaps and offers considered. Tel: 01532 759715 (any time).

■ System 7.5 – £50. *Word 6.0* upgrade – £50. *Hoyle Classic* – £15. All boxed. Contact Quidde on 0171 3713811 (after 7pm).

■ *ClarisImpact*, brand new, shrink wrapped – £100. Contact Muhammad on 0171 272 8502 (Mon-Fri, 10am-6pm).

■ *ClarisDraw*, new and unopened, bargain at £175 ono. Also *Digital Darkroom* (Greyscale Image Editor) – £10, and *Pyro* Screen Saver – £10. Contact Simon on 0171 289 7364.

■ *MacMoney V.4.01 UK*, unregistered, (personal and small business accounts software), brand new – £35. Contact Mike on 01703 731795.

■ *MacWrite Pro V.1.1*, *Personal Press V.2.1* – £20 each, plus postage. Contact Mark on 0181 224 6975.

■ *Fatty Bear's Birthday Surprise* – £15. *Putt Putt* – £15. *Scooter's Magic Castle* – £15. *Four Footed Friends Zoom Books* – £15, boxed with manuals. Contact Anne on 0181 224 6975.

■ *DarkSeed* boxed with manual – £20. Tel: 01272 744007.

WANTED

■ Any games for Classic II 4/40. Contact Grant on 0131 556 7030 or send lists to 22 Bellevue Road, Edinburgh, EH7 4DB.

■ CD-ROMs from issues 18 and 14. Wanted in new condition. Willing to pay around £4-£5. Please contact 01704 53102 (Southport).

■ SyQuest 44Mb cartridges. Also Apple StyleWriter II or ImageWriter II printer and an Apple CD-ROM CD300 required. All must be in good working condition. Tel: 0181 548 1210.

■ Will swap Performa 200 in return for Performa 400 or Plus and will pay the difference. Must be in good condition just like my Performa 200. Tel: 0181 954 7989.

■ Wanted *Fontographer 4.0*, good price paid. Contact Shailesh on 0181 654 4808.

■ PowerMac wanted, either 8100 or 7100, but others considered, cash paid. Tel: 01602 558720.

■ Apple CD-ROM 300 wanted for under £100, plus any kids' educational CDs etc. Contact Gary on 0131 557 4570 (Edinburgh).

■ External hard disk for Mac Plus, cash or swap Emuig Spr 8 Sound Projector, films worth £100+. Tel: 01294 212382.

■ Agenda Microwriter Mac Link pack, preferably System 7. Tel: 01425 470969 (Dorset).

■ Is your ImageWriter dying or printing faintly? I need your logic board! Also *Fontographer* or any shareware font design program. Tel: 0181 545 0627.

■ Mono printer for Mac Classic. Cash paid. Contact Catherine on 01232 239147 (any weekday between 6am to 8pm).

■ PowerBook Duo minidock wanted. Tel: 01370 270811 (Kent) anytime.

■ The first four CD-ROM editions of MACFORMAT (June to September '94). Full cover price and postage paid. Contact Jon on 01374 100835.

■ PowerBook wanted. Any model considered. Age not important, but price is! Please contact Ian on 01704 547093 or 01253 348810.

■ *Simpsons Simpsons Simpsons*, software, files, anything. Internet files, anything considered. Please send details to: 33 Spinney Road, Barnwood Glos GL4 7YX.

■ Colour monitor in good condition, size unimportant, price certainly is. Contact Steve on 01772 769875 (daytimes only – leave message).

SWAPS

■ Swap 4x4Mb RAM (30-pin), IIcx/ci/si/vi/vx compatible in exchange for 4x4Mb RAM (64-pin) 80ns IIfx RAM. Tel: 01831 486008 (9am to 5pm).

■ I want to swap/buy second hand software from people in Ireland (South preferably). E-Mail **eneezoii@eevax2.ucc.ie** or call 0168 31321 (weekends).

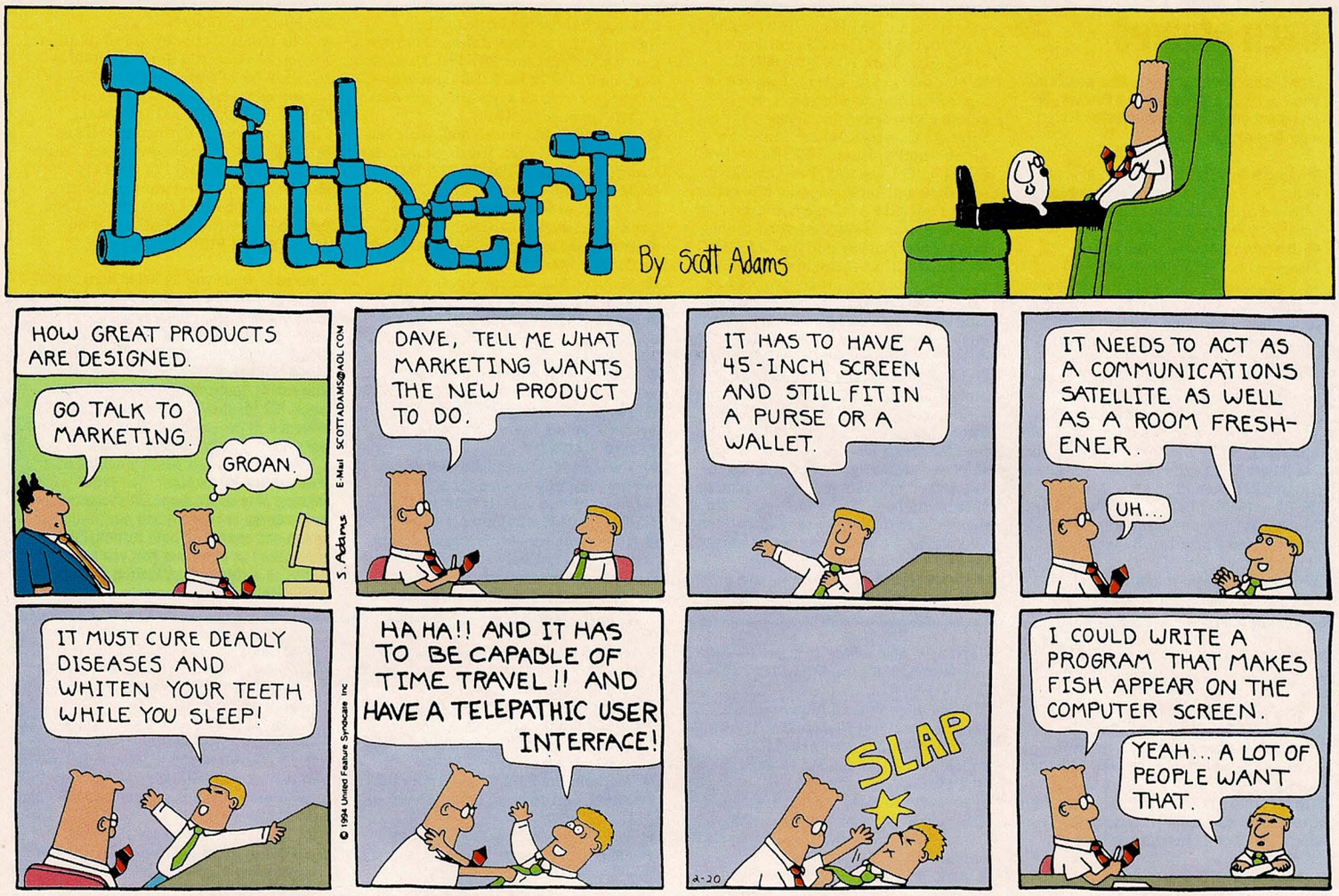
■ *Kings Quest V*, boxed as new, will swap for *Monkey Island II* or similar. Tel: 01342 843135.

CONTACTS

■ Wanted! Writers to write articles for non-profit newsletter/user group. Send submissions, letters etc to: Jeremy Dyck, 389 Knowles Avenue, Winnipeg Manitoba, R2G 1E4, Canada.

■ Fellow Ulster Apple Power Users wanted to swap 840av and PowerMac shareware and PD. Contact Mark J Cairns, 246 Comber Road, Lisburn, Co.Antrim, BT27 6XZ..

■ People to swap shareware with wanted. Send PD list, disks etc to: Mika Myyry, Sárkántie 12, 80100 Joensuy, Finland.


Dilbert
By Scott Adams
HOW GREAT PRODUCTS ARE DESIGNED.
GO TALK TO MARKETING.
GROAN.
DAVE, TELL ME WHAT MARKETING WANTS THE NEW PRODUCT TO DO.
IT HAS TO HAVE A 45-INCH SCREEN AND STILL FIT IN A PURSE OR A WALLET.
IT NEEDS TO ACT AS A COMMUNICATIONS SATELLITE AS WELL AS A ROOM FRESHENER.
UH...
IT MUST CURE DEADLY DISEASES AND WHITEN YOUR TEETH WHILE YOU SLEEP!
HA HA!! AND IT HAS TO BE CAPABLE OF TIME TRAVEL!! AND HAVE A TELEPATHIC USER INTERFACE!
SLAP
I COULD WRITE A PROGRAM THAT MAKES FISH APPEAR ON THE COMPUTER SCREEN.
YEAH... A LOT OF PEOPLE WANT THAT.
S. Adams
E-Mail: SCOTTADAMS@AOL.COM
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Whether you're buying by mail or in person, here are some sensible precautions to bear in mind. Note that everything here applies to buying from a business; most of it does *not* apply to buying from a private seller in MACFORMAT's reader ads pages.

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If you are buying goods of more than £100 in total value, always try to use a credit card. That way, in the unlikely event of anything going wrong, you will be legally entitled to claim against the credit card company as well as the seller, even if the seller has gone bust. You may also get extra insurance – check with your credit card company.

If you're not paying by credit card, pay by cheque. Never send cash through the mail – it is impossible to trace if it gets lost, you can't stop payment if you need to, and even if you have proof of posting you can't prove how much you sent.

Keep records. If you're paying by credit card keep a note of the exact time of the order and ask for an order number. If you're paying by cheque make sure you fill in the details of the date, amount and payee's exact name in the stub – and keep it!

When a mail order arrives

Check everything carefully. If anything is missing, contact the supplier immediately. If something doesn't work, make obvious checks (the fuse, etc), but don't try to repair it. If there's anything you're not happy with, don't use it – if you do, you could be deemed to have accepted it.

If there's a problem

Whether you bought it by mail or in a shop, the law says a product must be:

1. 'of merchantable quality' (that is, broadly speaking, it must actually be in working condition);
2. 'as described' (in the advert or in person – and this one criterion also applies when you're buying from a private seller, not a business); and
3. fit for the purpose for which it was sold or for the purpose you specified when you ordered it.

If it fails to meet any or all of these criteria, then you are entitled to return the goods for a refund, receive compensation for all or part of the value, or get a replacement or free repair, depending on the seriousness of the defect. These are the 'statutory rights' that adverts always say are 'not affected' by any extra guarantees. The supplier cannot change or deny these rights.

If you're not happy about something, always contact the supplier first and politely explain your problem. Most problems are sorted out at this stage with no fuss. If not, put your complaint in writing and send it to the manager or owner – ask for the correct name and job title. Give the supplier a reasonable time to reply – say ten days or so.

If the problem is still not resolved, you may need to take some sort of legal action to enforce your rights. This need not cost you a lot of money. You should seek advice from a solicitor (ask about the free advice scheme) or from one of the following organisations (check in your local telephone directory):

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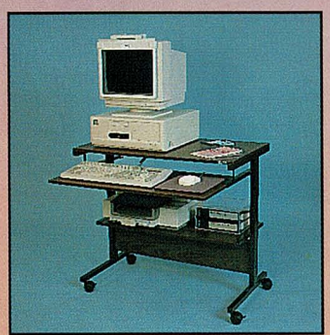

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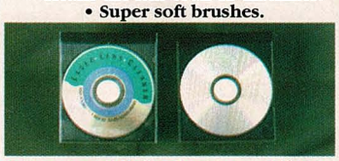

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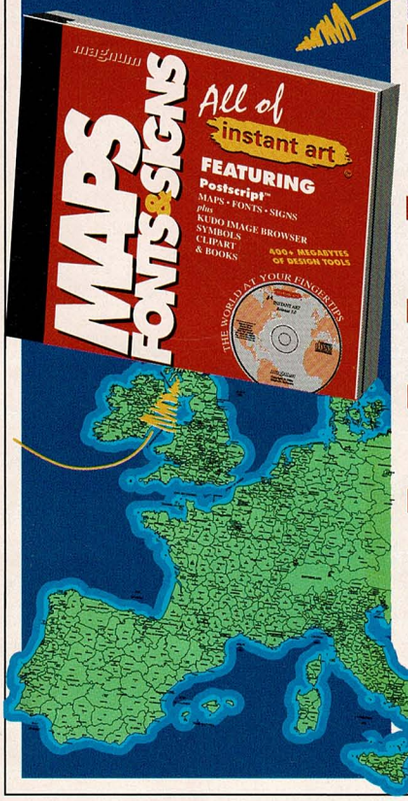

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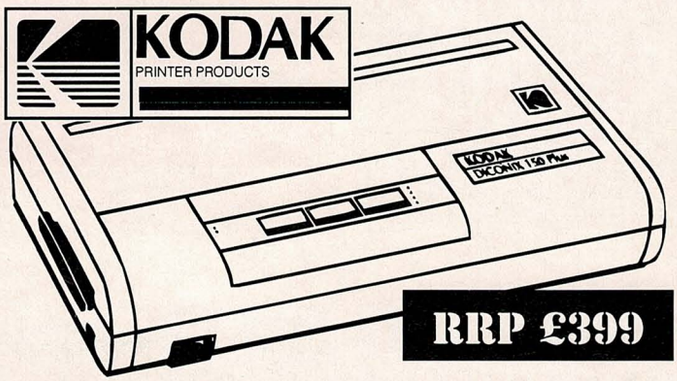

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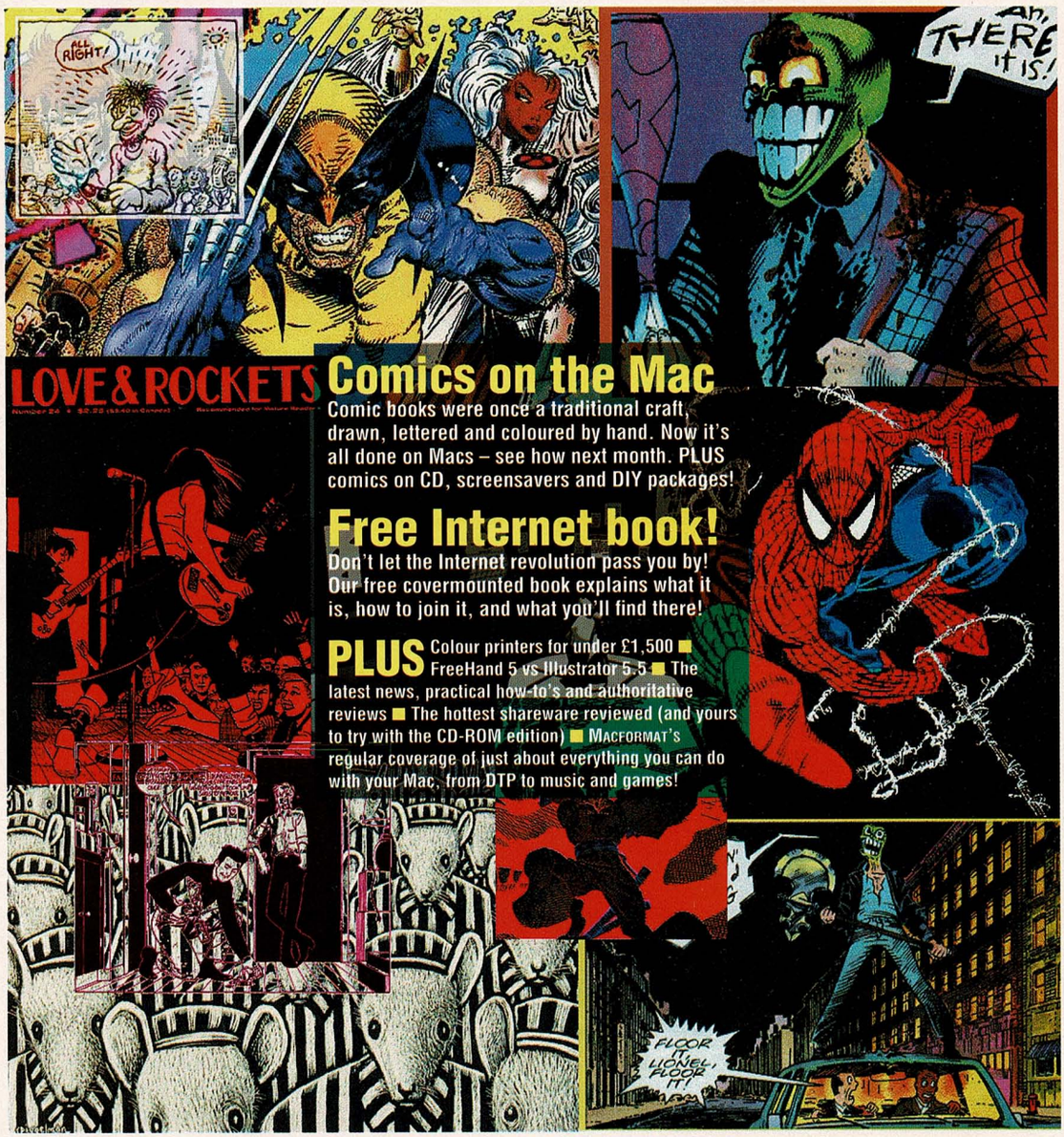

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In MACFORMAT 18 we gave you the chance to win a copy of *The 7th Guest* courtesy of Softline plus the video *The Making of 7th Guest*. The lucky winner is Graham Burrows from Newport, Gwent. The 50 runners-up who win the video plus £10 off the game are *[deep breath]*:

Jonathan Ashton, East Cottingwith, Yorks; Peter Baldock, London SE22; Nicholas Beeson, Castleford, West Yorks; Mr Brookes, Blackpool, Lancs; Anas Abo Wahab, Cairo, Egypt; Johan Brunnberg, Esher, Surrey; Dries Budding, Leidew, Netherlands; Bill Cadmore, Leeds; Paul Chapman, Great Yarmouth; C Chew, Hull; R N Clark, Witham, Essex; Chris Cooke, Hove, East Sussex; Simon Coughlan, Bristol; Simon Credland, Hull; Paul Dunstan, Norwich; D Durham, Shipley, West Yorks; P Garrity, Leicester; L N Gatehouse, Durham; Shirley Godfrey, Peterborough; Shobana Iyer, Hemel Hempstead; A Johnson, Nottingham; D Kennedy, Preston; D R Lewis, Rotheram, South Yorks; R Long, Leighton Buzzard, Beds; Paul Machin-Everill, El Hoofddorp, the Netherlands; W F Man, Maidenhead, Berks; G Manuel, Ilford; Rik Martin, Caster-On-Sea, Norfolk; Sarah Mendleson, Ilford; Mike, Levenshulme, Manchester; N Laudat, Liverpool ; Jakob Nilsson, Östersund, Sweden; Theo Nötzli, Volketswil, Switzerland; Joseph Ortenzi, London NW6; S Page, Douglas, Isle Of Man; C B Parkin, Worcester; R Parry, Portsmouth; Richard, London SE25; Matt Richardson, Tonbridge, Kent; Steve Ritter, London N1; Graham Sawyer, Stapleford, Notts; G Scott, Edinburgh; A Scott-Allen, Fareham, Hants; Ben Shacklock, Harrogate, North Yorks; S E Starling, Epping, Essex; Barry Tucker, Sandy, Beds; Inam Ulhaq, Rochdale; Sam Vail, Cambridge; Tim Wiseman, Ravensthorpe, Northants; M Wong, Rochdale, Lancs.

Everyone who entered in time wins a voucher for £10 off the game – but there's no way we can list you all! You'll be hearing from Softline soon. Well done!

Hanging in there... it's the Tiny Zone!

Hello and welcome again to the Tiny Zone, the section of MACFORMAT that just kinda sits here unobtrusively, evading change. Not that we're against change. Dear me, no. After all, who could complain about cheaper Macs, powerful new machines, and previously high-end applications, like Virtual Reality, Desktop Video and 3D, becoming accessible to anybody with a Mac? It's just that, as soon as you get used to things, somebody comes along and changes it all. If you read the credits on this page (and if you like fine print enough to read the Tiny Zone, you probably do), you'll have noticed that the MACFORMAT team never seems to stay the same for very long. You can count on somebody suffering a serious injury, or suddenly feeling like a career move, or being moved to another magazine... you get the idea. Even Future's Managing Director decided it was time to sell the company and move on. And now, Stuart the Publisher – the only Publisher MACFORMAT has ever known – has decided it's time to go. MACFORMAT owes its very existence to Stuart: it was he who persuaded the Board that the idea could work, launched it and published it for two years. He even edited it for a few issues, just for a laugh. Now he's moved on to take charge of Future's expansion into on-line publishing, as well as our sister magazines *.net* and *CD-ROM Today*. It won't be the same without you, Stuart. Except maybe here in the Tiny Zone, of course...

MACFORMAT 23 goes on sale on Thursday 9 March

Available with high density floppy disk or CD-ROM. Ask your newsagent to save you a copy or see the insert in this issue for our special subscription offers

Win a quad-speed CD-ROM drive

The new CDS 654T quad-speed CD-ROM drive from DynaTek came out fastest of the lot in our tests. It's worth £580, and we have two to be won, courtesy of DynaTek Distribution.

The multimedia revolution is here, and it's all been made possible by CD-ROM – one CD can hold as much data as 400 high-density floppy disks. The one drawback was that data took longer to load off CD-ROM, so you could get playback glitches – until now. The latest quad-speed CD drives offer data transfer rates a blistering *four times* faster than the original single-speed drives (hence the name).

In our tests, the new DynaTek CDS 654T quad-speed drive proved fastest of the lot. It boasts a sustained data transfer rate of 600K per second, a random seek time of just 125 milliseconds, and support for the super-fast SCSI-2 interface (if your Mac has one), as well as the standard SCSI. What's more, it has a 256K buffer to ensure faster transfer and smooth playback of digital video. It supports multi-session PhotoCD and audio CDs too (and a full-featured utility enables you to control volume and pre-program tracks for random or sequential playback).

DynaTek is a Canadian company well known in North America for its storage products, including hard disks, arrays, removable drives and tape backup systems – it even produces a rack-mountable digital music storage system, a network CD-ROM server and a helical scan autochanger. Whatever that is. Last year the company achieved a turnover of more than $80 million, and its experience shows in the CDS 654T's rugged case, designed to maximise heat dissipation, and quiet cooling fan. The drive features a caddy load design that protects the sensitive drive optics from dust and dirt, which can shorten the life of caddyless CD-ROM drives. It even has an auto-cleaning feature to protect the drive mechanism and optics from damage.

The CDS 654T costs around £580, but we have two to be won, courtesy of DynaTek Distribution in the UK. To enter, just answer the three easy questions below and send us your answers on a postcard or the back of an envelope. Employees of DynaTek or Future Publishing, and their families, are not eligible to enter, and multiple entries are not allowed. Please state if you don't want your name added to a mailing list. The editor's decision is final, and the closing date is Friday 17 March 1995.

THE QUESTIONS

1. How fast is the DynaTek CDS 654T's data transfer rate?
(a) 256K per second
(b) 600K per second
(c) 80 million K per second

2. Which of these is *not* one of the features on the CDS 654T?
(a) Headphone socket
(b) VHS tuner and aerial
(c) Volume control

3. What is the home country of the DynaTek company?
(a) Britain
(b) Canada
(c) Japan

Need help? Check the reviews on page 48! Send your entry to: The Great Quad-Speed Compo, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

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16GB turboDAT £798

inc Retrospect 2.1, installation kit

MacUser Awards 1993 WINNER

Best Buy MacUser

4-16 triple DAT £948

tape	external	media
4-16 triple	£948	£16
4-16 Turbo	£798	£16
4G Turbo	£698	£16

Since our DAT was a 5-mouser best buy, we've doubled the buffer size for even smoother backup, doubled the speed and doubled the capacity! No wonder it won the best peripheral category of the MacUser awards! Full compatibility with DDS1 standard drives (2GB and 2-8GB). Power Macintosh optimised. The even faster triple DAT is capable of over 35MB/minute. Choice of enclosures. Retrospect software, tape, cleaning tape & cables included.

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MacUser

3 year warranty
hard disks over 700 Mbytes optional on other drives

1GB disk £428

external, inc UK installation kit

£59 installed free on your new drive

hard	disks	seek	int/ext
260	12		£148/216
330	12		£158/228
500	12		£178/248
700	12		£226/296
1000	10		£358/428
2000	9		£764/838
4000	9		1598/1684
9000	10		2580/2680

seek times are average, "effective" seek times are all faster. All drives are fast SCSI2.

Lowest ever 1GB price!

Now's the time to retire that slow old 40-500MB drive. Our 1000MB drive outperformed every other 1GB drive in MacUser's gigabyte drive test. Yet none had a lower cost per megabyte. AV ready.

Upright "F" enclosure option:

240MB pocket drive £288!

230Mb Optical £548

(128MB £448 inc UK installation kit)

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Coming soon, twin drive mini-arrays, and fixed/removable combination drives. Order just one drive in the twin enclosure, and you're ready to upgrade for the cost of an internal drive...

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prices include disk	drive	media
44MB Syquest	£198	£44
88/44Mb Syq	£298	£54
200MB Syquest	£398	£65
270MB Syquest	£398	£53
128Mb Optical	£478	£18
230MB Optical	£578	£26
1.2/1.3GB MO	1398	£64

Apple CD300e plus £188

(Apple CD150 £98)

98% of orders shipped from stock. All external drives (except 270 Syquest) have 90-270V power, twin 50 way SCSI, pushbutton ID switch, platinum grey "zero footprint" aluminium or upright ABS plastic housing. External drives include UK mains cable, SCSI system cable, terminator, software, 1 piece media. DAT drives also include cleaning tape.

Warranty: 1, 2 or 3 years. **Delivery**: £8 courier. **Prices exclude VAT.**

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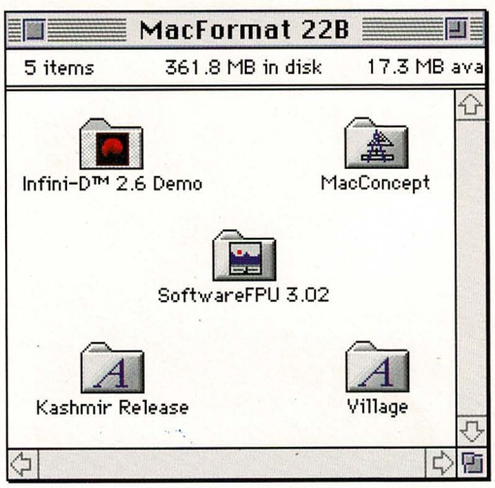
The latest version of the software that tricks your Mac into thinking you have a maths co-processor...
Extra 3D dis
MacConcept
Design and build models on your Mac with this comprehensive 3D drawing shareware program.
Fonts
Two wonderful freeware fonts of the cult band Led Zeppelin cult TV series, The Prisoner.
See back cover of magazine for more details & compatibility infor
3.5MB OF GREAT SOFTWARE
MACFORMAT
DISK 22A MAR 95
Blobbo
Fabulous puzzle game to stretch your mind to the limit (unlike a spotty near namesake).
SoundHandle 1.0.2
Re-mix time! Record long samples, then manipulate them and add effects.
Thumbnailer
Shrink screen-cluttering graphic file icons into tidy miniatures.
MacPrefect 3.0
Security software for the Mac – 30 day time-limited demo.
Lottery Lolly!
Get your Mac to pick those winning lottery numbers!
MacMasterMind
The classic mind game for your Mac. Black leather chair and Magnus Magnusson not supplied.
Plus: CatFinder, Clipfolio, QPict, WindowWizard and loads of icons...
See back cover of magazine for more details & compatibility information
3MB OF GREAT SOFTWARE!

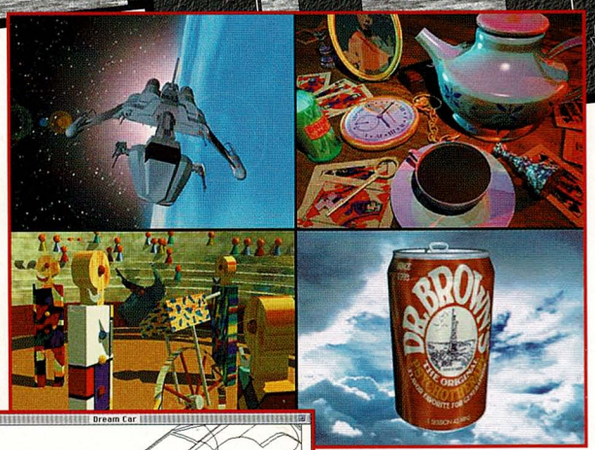
ON THE DISKS THIS MONTH...

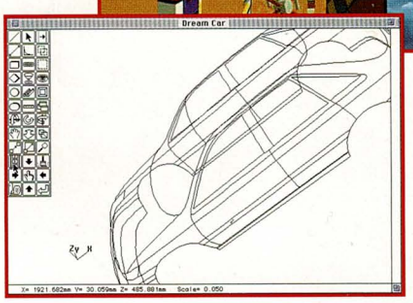
Yet again we bring you TWO floppy disks! And thanks to the wonders of data compression they contain more software than ever before! Disk B contains two great 3D art and design programs, but even then there was enough space left to squeeze a couple of fonts on. Enjoy!

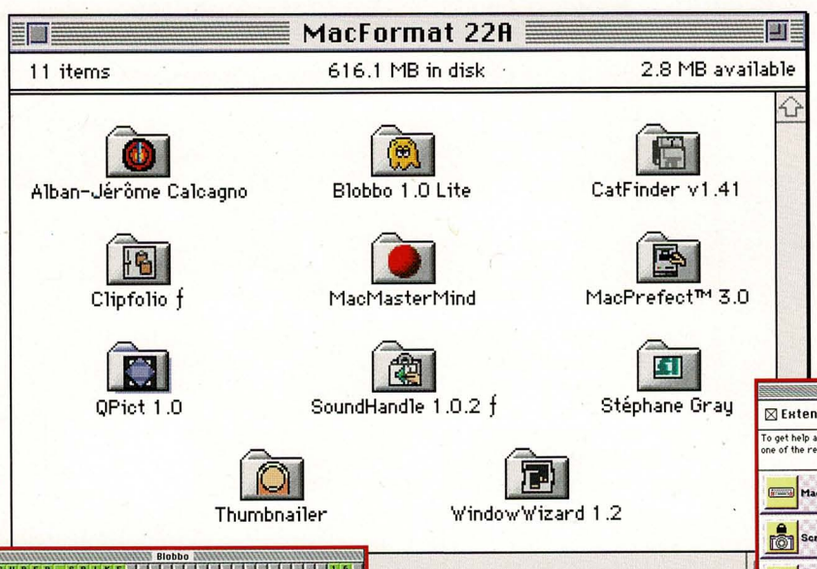


3D SPECTACULAR

We bring you the demo version of the marvellous modelling and rendering program *Infini-D 2.6*. If you've got 3Mb of free RAM, you can now follow and practise all the techniques described in the 3D tutorials in this and future issues. Also included is *MacConcept*, a complete shareware modelling program which requires only 1Mb of memory.

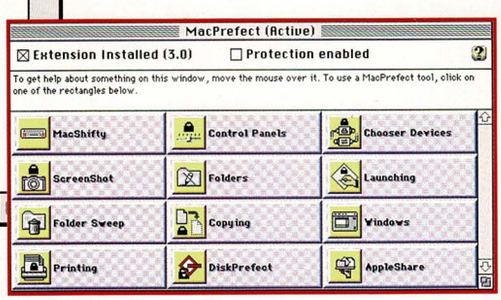






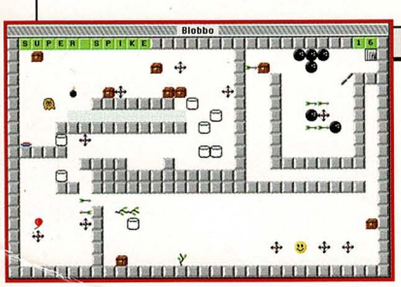
MACMASTERMIND

A great adaptation of the classic mind game where you have to crack a secret code, or get your Mac to work out yours. Requires: Any colour Mac.



MACPREFECT

MacPrefect is the best way to protect and manage your Mac, and the MACFORMAT disk brings you the complete program, time-limited for 30 days. Requires: Any Mac, System 6.0.4 or later



BLOBBO

Cute graphics combine with mind teasing conundrums to produce a stunningly addictive and fun game. Requires: Any Mac, System 6.0.8 or later.